
# Quarterly Review of PSYCHIATRY AND NEUROLOGY

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INTERNATIONAL RECORD OF PSYCHIATRY AND NEUROLOGY



VOLUME 7 NO. 2 APRIL 1952

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WINFRED OVERHOLSER, M.D.
*Editor-in-Chief*

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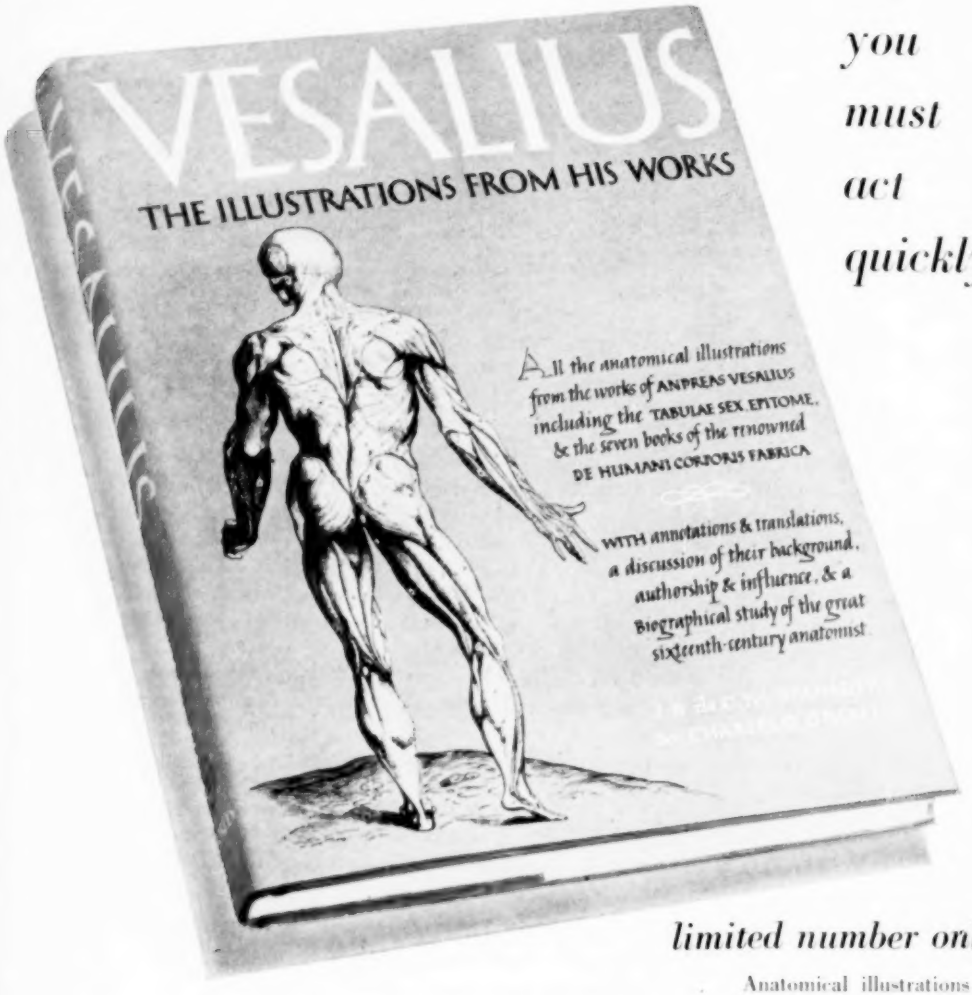


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*Quarterly Review of*

# PSYCHIATRY AND NEUROLOGY

**VOLUME 7 NO. 2** **APRIL 1952**

*Incorporating the International Record of Psychiatry and Neurology*

## INTERNATIONAL RECORD OF PSYCHIATRY AND NEUROLOGY



## PSYCHIATRY

### *Administrative Psychiatry and Legal Aspects of Psychiatry*



### *Alcoholism and Drug Addiction*



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### *Clinical Psychiatry*

## NEUROLOGY



## BOOK REVIEWS

*Quarterly Review of* **PSYCHIATRY AND NEUROLOGY**

VOLUME 7 NO. 2 APRIL 1952

*Incorporating the International Record of Psychiatry and Neurology*

# The Newer Biochemotherapies in Psychiatry*

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## A. THE BIOCHEMOTHERAPIES: SOME CLINICAL AND PHYSIOLOGIC FINDINGS

I. *Thyroid.* Among the earliest recorded biochemotherapeutic agents in psychiatry is thyroid substance. At the turn of the century, Kraepelin[1] emphasized its value in the treatment of cretinism and myxedema and in the correction of the psychopathology accompanying these disturbances which he viewed as metabolic.

Several investigators in the past and a few currently have utilized thyroid in the treatment of schizophrenia. Even though no effort was made to limit administration of thyroid only to those evidencing hypofunction, the consistency with which favorable results are suggested warrants further study. Kindwall and Danziger,[2] Gjessing[3] and Hoskins[4] have made reference to therapeutic contributions by thyroid hormone in schizophrenia. Among those who have studied the relationship of this hormone to the disorder[5–13] are Bowman, Dailey, Simon and Mayer,[9] and Reiss, Hemphill, Maggs, Smith, Haigh and Reiss[10] and the Creedmoor Group.[12,13] The relationship of thyroid

* Presented by invitation to the Section of Neurology and Psychiatry of the Queens County Medical Society at the Second Creedmoor Conference, October 2, 1951.

function to schizophrenia has also been the subject of a number of relatively recent reports which afford valuable data for integrative interpretations.

It is of interest to note that:

1. Clinically, hebephrenic schizophrenia suggested a combination of the mental retardation and behavior of hypothyroidism (or cretinism), and the bizarreness of schizophrenia; interesting data on thyroid function in hebephrenics was anticipated. Recently, Brody and Man[11] reported on iodine uptake in schizophrenics. Although, for some unexplained reason, all patients with frank clinical evidence of thyroid pathology were eliminated from this study, nonetheless a tendency to low thyroid function was found in the hebephrenics

2. Hemphill, Reiss and their co-workers[14] recently reported on the increased output of thyrotropic hormones induced by ECT. Here again may be another link in a chain which may bind abnormal thyroid function to certain of the schizophrenias.

3. Evidence gathered by our group[12,13,15] also implicated an antidyne or antagonistic relationship between thyroid hormone and adrenocortical hormone in a number of physiologic areas. Corroborative data has since appeared, namely, the reported effects of cortisone on blood cholesterol levels and on B. M. R., increasing the former and decreasing the latter. In a recent study, Lee and his co-workers[8] have corrected failure of response of schizophrenics to epinephrine by the administration of thyroid hormone and niacinamide — further evidence of thyroid-adrenal antidyne activity.

On the basis of our theoretical formulations, it was suggested that (a) an abnormal relationship between these two glands plays a role in hyperthyroidism, while (b) hypothyroidism, with its concomitant relative and operative hyperadrenocorticism, may be an etiologic and pathogenetic factor in one sector of the schizophrenias. It is apparent that much work remains to define the full role of the thyroid.

II. *Gonadal Steroids — Testosterone and Estrogen.* In the 1930's, there were many reports previously reviewed on the successful and unsuccessful utilization of sex hormones or related agents, including testosterone, estrogen, theelin, estradiol and stilbestrol.

In the past ten years, favorable results with testosterone have been recorded by Guirdham,[16] Zeifert,[17] Danziger and Blank,[18] Rosenzweig and Freeman,[19] Hoskins[6] and Altschule and Tillotson[20] and by the Creedmoor group.[21,22]

Therapy with testosterone and estrogens, when successful, is in our experience associated with early improvement in physical appearance followed by a general feeling of well-being. Elimination of, or reduction in depression, anxiety, and delusional ideation was also noted. There are suggestions of a tendency to relapse in some patients in a matter of months following discontinuance of therapy.*

* Rigid, experimental criteria, which have been established for the evaluation of the clinical effects of biochemotherapeutic agents, were applied in this study. These include:

a. Limitation of the period of therapy to four weeks.
b. Improvement must be manifest within the four weeks of therapy, or one week thereafter, to be recorded as possibly related to therapy.
c. Convalescent status as a criterion of improvement is determined by the regular hospital staff, not the research team.

Psychiatric research must utilize rigid controls such as these to minimize the incidence of spontaneous

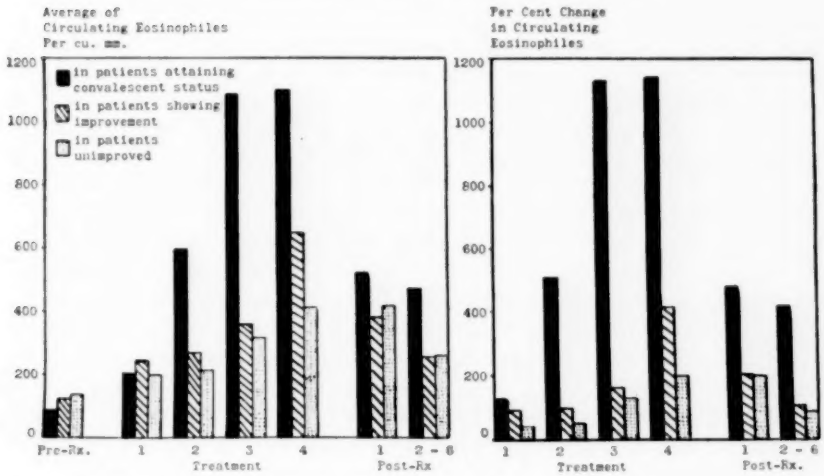


FIG. 1. Correlation between clinical improvement and change in circulating eosinophile levels of 17 patients: 6 attained convalescent status, 5 improved, and 6 did not improve.

To summarize the physiologic highlights of the relationship of gonadal hormones to schizophrenia:

a. There is evidence of deficiency of gonadal hormones in a significant number of schizophrenic patients. Further, as has been reported by Hoskins and Pincus,[23] the male schizophrenic excretes a urine with hormonal concentrations closer to that of the average female — a physiologic hormonal inversion which is interesting in the light of the not uncommon psycho-sexual inversion noted in the male schizophrenic, particularly of the paranoid type.

b. Changes in the blood cellular picture in sex steroid therapy frequently resemble similar, though less marked changes, during insulin coma and electroconvulsive therapy. Blood count studies reveal a marked increase in eosinophiles and lymphocytes following combined testosterone-estrogen administration.[24-25]

c. An association between change in the clinical status and in the blood cell picture. The patients achieving the most improvement showed the greatest increase in eosinophiles. This association may eventually give us a prognostic index. (See Fig. 1.) Significantly, patients who achieved convalescent status without a corresponding marked increase in eosinophiles relapsed within a relatively short

remission and to isolate the factors influencing the course of the process. In addition to clinical evaluation, we are also attempting categorization of therapeutic changes on the basis of various psychological tests, *e.g.*, Rorschach, Bellevue-Wechsler, Thematic Apperception Test, Bender Gestalt and Lowenfeld Mosaic.

period of time as compared to those patients who achieved a marked eosinophilia.[25]

A testosterone-adrenocortical antidyne relationship is suggested by these findings, at least in relation to blood eosinophile levels. This view is consistent with data of Venning[26] who has reported on the inhibiting effect of testosterone on excretion of adrenal metabolites. Selye[27] noted adrenocortical involution following administration of testosterone. Albright[28] demonstrated reduction in steroid content of the adrenal cortices of rats administered testosterone propionate. Talbot, Albright, Saltzman, Zygmuntowicz and Wixom[29] showed a reduction in excretion of 11-oxycorticosteroids following administration of testosterone propionate.

It has been suggested in theoretical formulations[30,31] that, in the face of such antidyne activity, the absence of reduction of one opposing hormonal force results in a relative and/or operative excess of the other — in the case under discussion, adrenocortical. The interrelationship of these hormones may be illustrated further: Hemphill and Reiss[32] noted that in a group of six chronic catatonic schizophrenics treated with 25 mg. of testosterone daily, "remarkable clinical improvement" was obtained in one, and that patient was the only one of the six showing no dehydroandrosterone excretion, although the total ketosteroid output was normal. The other five patients had normal dehydroandrosterone excretion and failed to show clinical improvement.

III. *Insulin.* The most familiar biochemotherapeutic agent, insulin, both in coma and subcoma doses, stems from the work of Manfred Sakel.[33]

As noted, a course of insulin coma therapy was reported by Finn Rud[34] to be often associated with an increasing eosinophile level, particularly when clinical improvement was achieved. In 1944, Billig and Hesser[35] reported that the depth of insulin coma is more closely related to the blood histamine level than to the blood sugar concentration. This is of more than theoretical importance in considering irreversible coma during insulin therapy. Knowledge of the presence of high blood histamine concentrations may be an indication for the utilization of histamine antagonists, namely, adrenal hormones — both cortical and medullary — in the treatment of such complicating phenomena.

Although the clinical achievements of insulin therapy are well known,[36-53] there is a sparsity of recent physiologic studies of this commonly used therapeutic agent. Attention is called to a few of the effects during insulin therapy which are common to histamine and/or testosterone and estrogen, and/or ECT:

1. Evidence suggestive of decreasing adrenocortical output over the course of therapy.
2. H-substance effects, *e.g.*, increased blood histamine levels or increased gastric HCl secretion.
3. Improvement in glucose tolerance.

IV. *Histamine.* The original Creedmoor study with histamine was carried out in 1945 and 1946.[54,55] The first report including a review of the literature, was published in 1949 following completion of a three-year follow-up.[56]

In the histamine work (as with other therapies), in all age groups other than children, the rigid criteria of four weeks of therapy and improvement manifesting itself within that time or one week thereafter, were utilized.[57] Results with histamine therapy were found to be comparable with ECT given to patients in the same pavilion, and when combined with ECT, the number of patients responding was doubled.

| | | | | |
|---|---|---|---|---|
| ECT alone | — | of 25 patients | — | 3 attained C.S. (12%) |
| HT alone | — | of 38 patients | — | 5 attained C.S. (13%) |
| HT and ECT | — | of 25 patients | — | 4 attained C.S. (16%) |
| HT and HT-ECT | — | of 38 patients | — | 9 attained C.S. (24%) |

Confirmation of such a potentiating effect of HT on ECT was suggested by the report of Jacobowsky of Sweden at the International Congress of Psychiatry,[58] and by the findings of Gorfinkle, in a limited number of cases.[59]

Gaviria,[60] in Bogota, in a detailed study reported in *Anales Neuropsiquiátricos* of April-May-June 1950, and reviewed in the J.A.M.A. of March 3, 1951, also noted improvement following histamine therapy.

Nagendranath De[61] of Calcutta, India, published a report on the utilization of histamine combined with small doses of insulin daily. He noted complete "recovery" in 6 and improvement in 6 of a series of 20 schizophrenic patients. In a follow-up study of 4-9 years, this worker reported that there were fewer relapses and longer intervals of freedom of "active psychosis" than in patients treated with other forms of therapy.

At the last A. P. A. meeting in Cincinnati,[62] three hospitals reported their findings with histamine biochemotherapy:—

Gorfinkle, of Rockland State Hospital, reported on the changes induced in 15 patients. He noted that two patients were much improved and two others improved in a series of 15 patients. Although these findings are consistent with our and other reports, the case histories cited by these authors suggest that they had even greater success than reflected by these figures. For example,

> M.V. (53), *D.P.-P.*, duration 1 year, 2 months. "While her basic personality remained unchanged, in that she is still high-strung, subject to mood swings, difficult to get along with, suspicious and complaining and always seeking attention, she now has no frank delusions, no longer hallucinates, and is able to get along with people in a limited fashion. She now will ventilate material much more easily than she did in the past. Patient is being considered for convalescent status. Condition recorded after therapy—slightly improved."
>
> A.C. (22), *D.P.-C.*, duration 8 months. "He had poorly systemized delusions of persecution . . . fear, retardation and withdrawal . . . (After histamine therapy): He was able to adjust fairly well, on two repeated home visits and was finally placed on convalescent status. Condition after therapy—slightly improved."
>
> M.M. (48), *I.M.*, duration 2 years. ". . . withdrawn, depressed, lost sleep and was somewhat agitated . . . A slight improvement was noticed in that her affect was livelier, there was a better output of energy and better socializing. Her basic personality, which was predominantly schizoid, remains unchanged. Condition after therapy—unimproved."
>
> R.H. (25), *D.P.-P.*, duration one year, 10 months. ". . . at present patient is on convalescent status, but making a very poor adjustment. Condition after therapy—unimproved."

If failure in influencing personality is taken as a sole criterion of therapeutic benefit, then most of the literature must be reappraised. Can one even expect to change personality by pitting four weeks of therapy against not months, but years of continuing pathology? In the Rockland series, if the clinical status of the two patients noted as

unimproved (M.M. and R.H.) had been classified in keeping with the clinical betterment as recorded in their protocols, improvement rate would have been raised to 40 per cent — a percentage higher than our original report, yet consistent with the reports of other investigators.

Katzenelbogen, of St. Elizabeths Hospital, reported on the effect of HT on a series of 36 patients (Table I) and compared it with 31 control patients (Table II), for whom saline was administered by injection with duplication of the attention and procedures required by HT. He reported that he was "impressed" by the difference between the histamine-treated group and the saline control group, and recommended further study.

TABLE I

*Histamine Treatment—Therapeutic Results*

| Patients | Much Imp. | Imp. | Sl. Imp. | Unimp. | Total |
|---|---|---|---|---|---|
| D.P.-C. | 0 | 3 | 2 | 7 | 12 |
| D.P.-P. | 1 | 2 | 3 | 5 | 11 |
| Inv.Mel. | 1 | 1 | 2 | 2 | 6 |
| M.D.-M. | 1 | 2 | 0 | 2 | 5 |
| M.D.-D. | 0 | 0 | 0 | 2 | 2 |
| Total | 3 | 8 | 7 | 18 | 36 |

TABLE II

*Control Studies with Saline—Therapeutic Results*

| Patients | Much Imp. | Imp. | Sl. Imp. | Unimp. | Total |
|---|---|---|---|---|---|
| D.P.-C. | 0 | 1 | 1 | 10 | 12 |
| D.P.-P. | 0 | 1 | 0 | 6 | 7 |
| Inv.Mel. | 0 | 1 | 0 | 5 | 6 |
| M.D.-M. | 0 | 1 | 0 | 3 | 4 |
| M.D.-D. | 0 | 1 | 0 | 1 | 2 |
| Total | 0 | 5 | 1 | 25 | 31 |

Significant is the demonstration by Katzenelbogen that saline injections, given with the same attention and observation of details as histamine, may afford some psychotherapeutic benefit but do not alter the process enough to enable patients to go home. Of the histamine treated patients, 50 per cent were recorded as "improved," "much improved," and "slightly improved." In the controls, there were no "much improved" patients and only 20 per cent "improved" or "slightly improved." Insufficient time precluded follow-up studies of either group to determine the duration of the recorded improvement.

The negative report by Polatin and Effron of the Psychiatric Institute is the second negative report on histamine therapy of schizophrenia, the other being the preliminary work of Gildea, et al[63] on but 3 catatonic schizophrenics. In the light of the positive findings, not only by our group but also by Marshall and Tarwater,[64] Horace Hill[65–67] of Britain, Robb, Kovitz and Rapaport,[68] Niver,[69,70] Jacobowsky[58] of Sweden, Nagendranath De[61] of India, Gaviria[60] of Colombia, Kaufmann,[71] Gorfinkle[62] and Katzenelbogen,[62] the findings of the Psychiatric Institute are puzzling in that: (1) no case of spontaneous remission was noted, and (2) neither was a single beneficial effect reported in response even to the positive psychologic effects of injections as was noted by

Katzenelbogen in his control group. Thus, it would be desirable to examine the characteristics of their sample, or clinical material, as well as the reported findings. In doing so, one notes:

1. That among the 23 patients in the Polatin-Effron series,
   (a) seven patients had received insulin coma therapy or ECT or both, *and psychotherapy* previously — *without success.*
   (b) two had received ambulatory insulin therapy *and psychotherapy* — *without success.*
   (c) an unspecified number had received thyroid *plus psychotherapy* — *without success.*
   (d) an unspecified number had received sodium amutal *and psychotherapy* — *without success.*
   (e) the remainder had been on *psychotherapy* — *without success.*
   (f) all the patients in this series, as distinct from those in the Rockland State and St. Elizabeth studies, were on psychotherapy concurrently with histamine.
2. the group contained 2 cases of *"organic"* psychoses.
3. two improvements were recorded, but were attributed to a diagnosis of conversion hysteria.

It is dangerous to draw any conclusions from this study. If one did, one could have as readily concluded, and we do not so conclude, that psychotherapy, as applied in this series, nullified the effects of histamine biochemotherapy; or, for that matter, that psychotherapy of schizophrenics is actually less effective than the simple procedure of an injection of 3 cc. of saline.

All in all, nine groups in five countries have reported beneficial effects with some forms of histamine biochemotherapy in well over 500 patients, and their rates of improvement have almost consistently exceeded those rates reported by our group in our original papers.

Apart from the importance of the therapeutic benefit afforded the patients are the implications of the physiologic data and their integration into the general body of pathophysiology in schizophrenia.

The physiologic findings derived from histamine biochemotherapy indicate that excessive histamine-antidyne titres — *e.g.*, a possible relative and/or operative excess of adrenocorticoids; more specifically, the 11- and 17-oxysteroids — in relation to histamine or H- substances may well be an etiologic and pathogenetic core of some of the schizophrenias.[15,30,31]

### B. PHYSIOLOGIC-PSYCHOLOGIC INTEGRATION

Almost 100 years ago Claude Bernard vigorously stated,[72] "Experiment only shows us the form of phenomena; but the relation of phenomenon to a definite cause is necessary and independent of experiment; it is necessarily mathematical and absolute." Our efforts have been to relate biochemotherapeutic agents to their specific physiologic effects and we have thus been able to report common denominators in varied, seemingly unrelated, therapies in psychiatric disorders. We have sought to relate physiopathologic

findings to the etiology and pathogenesis of psychiatric processes. This led us in 1948 (at a Creedmoor Staff Conference)[73] to propose an etiologic and pathogenetic theory predicated upon our clinical and experimental data. Our findings suggested that operatively excessive adrenal hormone effects were disrupting neuronal physiology.

Such disturbances were characterized as adrenal-excess dysequilibrations. Since such dysequilibration cannot be continuous, it would seem that periodic compensation may be achieved by the action of the physiologic antidynes or antagonists to the adrenocortical substances, *e.g.*, histamine, thyroid, insulin, gonadal hormones, etc. It may be of interest that the possibility of producing psychosis with ACTH and cortisone was thus predicted on the basis of the theoretical formulations here reported. Today a great deal of added support can be inferentially drawn from the growing body of clinical reports as to the psychosis-producing action of some adrenocortical hormones. The clinical pictures observed in these cases closely parallel schizophrenia — from the early undifferentiated types to the more advanced frank pictures.

Although more definitive data and a better understanding of the entire field of hormonal effects on neuronal function are urgently needed, it is possible, even now, to record that "out of our findings has come the conviction that we are today on the threshold of the era of metabolic medicine and metabolic psychiatry. . . . Through the metabolic era, psychiatry will come to its fullest understanding of neuronal physiology and its relationship to psychodynamics."[74]

## SUMMARY

The historic roots of biochemotherapy have been traced from the work of Kraepelin. The role of thyroid, testosterone-estrogen, insulin, and histamine in the treatment of the major psychiatric disorders has been reviewed with particular emphasis upon the physiologic findings during these therapies. The antagonistic or antidyne role of these physiologic substances to the adrenocortical substance has been presented in an attempt to integrate physiologic phenomena with clinical findings.

The importance of continued research in the metabolic aspects of psychiatric disorders becomes more urgent and vital to psychiatric progress when an integrated physiodynamic interpretation is made of available physiologic phenomena and data.

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# Psychotherapy

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Psychotherapy begins with the first telephone call. It is well advanced by the time the history has been taken and it is terminated when the patient asks rather tentatively whether he has to come back any more. Psychotherapy may be interrupted at any point in its course by unilateral, bilateral, or multilateral agreement, but it continues through the vicissitudes of chemotherapy, shock therapy, and even surgical therapy. I shall endeavor to present briefly the practical points that I have adapted from others in an effort to improve my effectiveness as a physician. The younger men and women in the audience may think of me as a hobby-rider (if they use no stronger term) largely concerned with shock therapy and lobotomy, but they will find in my bibliography a number of papers on therapeutic approaches of the more conventional type. I admit that some of these are pot-boilers, prepared upon request for certain medical gatherings, but some of them represent earnest endeavors to set forward a combination of the experience of the past and the interpretation of the present.

My aim in psychotherapy is to help the patient restore the balance that has been upset by his disorder. "I can't decide your problem for you," I tell him, "for that would require the wisdom of Solomon, but I can help you to put yourself in condition to decide that problem for yourself." Therefore, my attack upon the problem is an indirect one, aimed at the individual rather than at his central problem. Only rarely do I tell the patient just what to do to cut the gordian knot. I don't think a physician has any business to tell a patient to undertake divorce proceedings, or to have a child, or not to have one, or to leave home, or to stay home in the face of serious emotional odds. The patient has already considered most of the possible solutions, and the reason he comes to the doctor is because none of them suits him. He may want to have his decisions made for him, or he may want a shoulder to weep on, or an employee who will listen to his gripes. For the patient's welfare the physician must sometimes enact the role of the mother, father, lover, or any other emotionally tinged relationship, as long as it leads to greater flexibility on the part of the patient in deciding his own future course. In order to achieve that flexibility and stability, however, the patient must secure a certain freedom from the tormenting problems that assail him. The physician plays his role in diverting the attention of the patient from the central problem, which is usually a liability, toward the development of his assets in other directions.

## CHOICE OF CASES FOR PSYCHOTHERAPY

There is a power of virtue in recognizing one's own limitations with regard to psychotherapy. Strictly speaking I choose only the easy cases for this procedure. In

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a more general sense, psychotherapy for a large number of patients consists in enabling them to live with a handicap. Many patients with neurologic disorders come under this heading — disorders such as parkinsonism, multiple sclerosis, epilepsy, and cerebral arteriosclerosis. For them it is just as important to find what they can do in their present state of handicap as it is for an hysterical individual to discover his potentialities.

I consider psychotherapy useless in most depressions and dangerous in some because of the risk of suicide. Even when the patient appears to have a psychoneurotic depression, the depression is considered of primary importance and should be eliminated before beginning psychotherapy. The same holds true for reactive depression. A patient with depression is immune to psychotherapy.

I confess to a certain impatience with patients presenting obsessive compulsive neuroses, obsessive ruminative tension states, phobic responses, and the like. These patients are at least my equals from the intellectual standpoint, and since the great game in psychotherapy is outguessing the other fellow, I usually permit no fostering of dependence. If they won't play it my way, I suggest that the patient seek a more cooperative doctor.

Schizophrenic states are notoriously difficult to handle from the psychotherapeutic point of view. I have no great success with them with conversational methods and consequently decline to undertake therapy. A similar personal bias prevents me from being of any use to an alcoholic. It is indeed fortunate that there are so many physicians who are interested in the therapy of these types of patients, for they need help in various ways and I can't give it to them.

My particular field of endeavor among the psychoneurotic patients are the anxiety and tension states, particularly those associated with physical complaints, sometimes with conversion symptoms or nervousness as a presenting symptom. These people with their free-floating anxiety, their regrets for the past, and their fears for the future, are a very satisfying group to deal with. They have their handicaps and their rigidities, their minor obsessions and their phobias, but as long as there is some aspect of the personality to deal with that can be worked upon, I focus my attention upon that and develop whatever assets the individual possesses.

### THE DIAGNOSTIC FORMULATION

Patients of the type described above are more receptive to a diagnostic formulation at the end of the first hour than they ever will be again. They have come with a referring physician's reports of largely normal findings and are prepared to expect almost anything from a neurologist. Having done my best to get the meat out of the often fragmentary history, I start the neurologic examination with a dexterity that has been cultivated over a quarter of a century and which is designed to assure both me and the patient that I know what I'm looking for and what I'm about. I try not to grunt or whistle or frown, or in other ways alarm the patient, so that by the time the ordeal is over he will be relaxed. During the examination, I ascertain the pain threshold by the simple method of pressing first on the mastoid processes and then on the styloid processes. I also determine the effect upon the patient of carotid pressure blackout and

hyperventilation. These are disagreeable to the patient but in a sense establish my supremacy; also the patient is relieved and relaxed when I stop.

I never tell the patient that there is nothing wrong with him. I seldom tell him that it is a case of nerves. I never tell him that he can snap out of it if he makes an effort of will. Such statements would insult his intelligence and drive him away quite dissatisfied. What the patient wants is an explanation of how he gets his sensations and his anxieties. This is easy to answer. It's not easy, however, to give the whole answer or the true answer. It's fortunate that the patient is accessible to something short of the whole and true answer, for medical science has not progressed far enough to satisfy either me or the patient.

Probably the most common complaint that is presented by the anxious patient is a swimming sensation in the head, followed by tightness in the throat and at the back of the neck, with pain radiating up over the occiput to the temporal regions and forehead, coldness of the hands, tingling of the fingers, and vague feelings of impending collapse. I, therefore, say to the patient:

"I'm going to show you in exactly one minute how you can bring on an attack like the ones you describe to me. All you have to do is breathe like this (I demonstrate) for one minute."

I hold my watch where the patient can see the second hand and urge him on with all my persuasiveness to overbreathe while the red hand makes a complete circuit. I begin talking at the fifteenth second:

"You are now beginning to feel a bit giddy, just as when you blow up a fire at a picnic. Now you can feel that tightness and dryness of the throat. Keep on! It won't hurt you. Breathe! Deep! Fast! Now that tightness is spreading to the back of your neck. Your hands begin to get that cold feeling. All right, stop."

By the time this test is over the patient who has already been on the borderline of mild tetany before the hyperventilation is ready to collapse. The curious thing about this state, and one that marks it as surely neurotic, is the fact that the patient continues to overbreathe even after being told to stop. Sometimes I allow the breathing to slow up naturally; at other times I ask the patient to bend ten times with the fingers close to the floor, meanwhile holding his breath. And another ten. By the time this exercise is over and he is catching his breath, I call attention to the fact that the symptoms that were so prominent a couple of minutes before are greatly reduced.

I then challenge the patient. "How good is your will power? Let me see how long you can hold your breath. Sit here beside me and I'll hold my breath with you. One minute is par; 90 seconds is good. I promise you a quick recovery if you can hold your breath longer than I can. Come now!"

The patient is at a disadvantage. I can hold my breath for two minutes, and no patient without practice has yet beaten me. If the patient holds out a full minute, the outlook is good. If he gives up in less than 40 seconds it is poor. After the test is over I take up the explanation:

"When you overbreathe, you blow off the valuable carbon dioxide that keeps the small arteries open. When you overbreathe the amount of blood that goes to your brain

is reduced by as much as 50 per cent. No wonder you felt like fainting, just as when I pressed on your neck and shut off all the blood for a few seconds. Whenever you overbreathe you are cutting down on the amount of blood that goes to your brain. Why do you overbreathe? That's where the anxiety comes in. You feel the tension and take a deep breath. Maybe you do it without noticing, but I want you to notice it from now on.

"There are two ways of keeping the carbon dioxide at a satisfactory level in the blood; one is by forcing yourself to stop wasting it, and that is a matter of will power. The other way is by making more carbon dioxide through muscular exercise, and that too depends on will power. You have the capacity to control the disagreeable symptoms that bother you so much."

During the final part of the interview, when the patient can see that he hasn't much more time, I instruct him in a sort of Yogi exercise, seeing how long he can make five individual breaths last. I also insist upon physical reconditioning by means of exercise for at least an hour a day. Walking is best if the feet are in good condition, since the rhythmic swinging of the arms has something beneficial about it. Competitive sports are too exciting for the patient who is a bit on the anxious side.

Sleep is important for these patients, so I usually prescribe Nembutal 0.1 to 0.2 Gm. at night or upon awaking before 4 a.m. in order to avoid the vigil. I put in a penalty, however, of a cold bath or shower to take away the effects of the barbiturate. "Five cold baths equal one electroshock treatment."

Social activities are stimulating, usually too much so, and I advise their use in moderation. I'm not yet sure whether television is beneficial or pernicious for most people. I only know my own reactions. Reading should be selected for diversion only. I sometimes confiscate books on psychology, theology, numerology, and astrology.

Rest is an important feature in the management of anxious and distressed patients, but there is nothing that is more abused than rest. Patients constantly complain of feeling tired, and I have to explain to them that the tiredness they feel is a false fatigue, a nervous fatigue, that is accompanied by tension. They will be tired before they begin their walks, I tell them, but after the first mile the tiredness will begin to go away, and after they have brought themselves back on the road to health they will recognize the difference between the nervous fatigue accompanied by tension and the physical fatigue accompanied by relaxation. Some people need a good deal more activity than others in order to achieve this relaxation. Others cannot spare the time. It is in such cases that the Yogi-like exercises, carried out regularly and conscientiously, may make the symptoms less disagreeable and enable the patient to perform better work with less expenditure of nervous energy.

### THE MECHANISM OF RESTORATION

A state of anxiety is the foundation of many of the tension states that are susceptible to psychotherapy carried out at a physical level, as indicated above. The program outlined is designed to balance mental labor by muscular exercise, so that cerebral circulation may be maintained at its optimum. When the patient has progressed to a certain

point in balancing his energies, I sometimes recommend relaxing exercises, particularly for wakeful nights.

Recovery or restoration is accompanied by a certain degree of insight into the physical, chemical, and muscular coordinates. I know that insight into the mechanism of the neurosis is said to be of great importance, but I think that the present insistence upon insight as a necessary mechanism for recovery is often wasteful, hazardous, and dangerous. There is nothing so painful as complete insight. Few patients, emotionally distressed as they are, will make rapid strides toward recovery if they have to face themselves every day of their lives and go back through the wastes of their formative years in an effort to see how a given trait developed. The insistence upon insight makes for introversion, which is already all too developed in these patients. The dissatisfaction and often dismay which comes to a patient when he sees himself as he really is is too high a price to pay for a relatively benign anxiety state. If the patient is experiencing physical discomfort, let the treatment be at the physical level and save the metaphysical for research into mental mechanisms.

Insight appears to me to have become a fetish and does more harm than good. I sometimes think that the patient is ill-advised who would pursue the will o' the wisp "insight" through the eager, if distorting, spectacles of the psychotherapist. It is the therapist who should be paying for the diverting spectacle of the patient exposing himself, rather than the other way around. People used to get well without insight, and they still do today. More problems are solved by denying their existence or burying them than by going over and over them until the problem of therapy becomes obsessive in itself. Analysis, terminable and interminable, was one of the wisest choices of a title by the "father of them all." By all means, place upon the patient the responsibility for getting well as fast as he can.

**In order to facilitate the use of the abstracts published in the QUARTERLY REVIEW OF PSYCHIATRY AND NEUROLOGY, we have instituted the practice of numbering abstracts, beginning with this issue. As there were 63 abstracts in the January issue, the first abstract in this issue will be numbered 64.**

# ABSTRACTS

## psychiatry

### ADMINISTRATIVE PSYCHIATRY AND LEGAL ASPECTS OF PSYCHIATRY

64. *Psychiatric Expert Testimony in Criminal Cases Since McNaghten: A Review.* WINFRED OVERHOLSER. J. Crim. Law, Criminology and Police Sci. *42*: 283–99, September-October 1951.

The author presents an historical review of the evolution of psychiatric expert testimony in criminal cases during the past century, the reasons for criticism of its employment, and proposed remedies for its abuse. Special reference is made to the Briggs Law of Massachusetts as a progressive step and to the proposed Uniform Expert Testimony Act.

The expert should make the same charge regardless of the outcome of the case (no contingent fee) and should, wherever possible, insist on joint examination with the experts retained by the opposing party. "Surprise" witnesses should not be allowed. The hypothetical question should be abolished. Ultimately we should hope for the establishment of a "treatment tribunal," leaving to the court and jury only the question of whether the offense alleged was actually committed.—*Author's abstract.*

65. *A Study of the Personality Structure of the Prisoner in Hawaii.* SIDNEY L. HALPERIN, Kaneohe, Hawaii. J. Clin. & Exp. Psychopathology *12*:213-21, July-September 1951.

Psychologic profiles based on responses to selected projective tests and socio-psychiatric data reveal striking psychopathy in a group of newly admitted prisoners to the Oahu Prison in Hawaii during 1948–49.

The observed psychopathy is described in terms of known neurotic and psychotic mechanisms, suggesting little need for the use of the diagnostic label of psychopathic personality.

The Bender Gestalt test contributes measurably to the overall psychologic profile and should be used routinely in conjunction with other projective technics.

Although the data suggest that emotional dysfunction is a singular feature of the personality structure of the prisoner and that adverse socio-economic and cultural influences are significantly related to crime, we are still in the dark about the nature-nurture relationships involved.—*Author's abstract.*

66. *Medical Responsibility for Juvenile Delinquency.* NATHAN BLACKMAN, St. Louis, Mo. Postgrad. Med. *10*:499-503, December 1951.

The author reviews the more salient factors contributing to our failure in handling delinquency. He describes the need to modify the McNaughton Laws in light of accrued knowledge about motivation and emotionality of growing up. The discrepancy between the legal attitude which concentrates on administering punishment for an offense and the medical view which considers the individual and his reasons for committing the offense are described.

It is pointed out that the most delinquencies are listed as crimes against society, whereas in the distant past they were traditionally directed against the father. The abdication of the father as the frustrating person bearing the brunt of aggressiveness from juveniles and the transfer of this hostility to "society" is a phenomenon of modern life.

The juvenile delinquent cannot repress aggressiveness and has a lack of genuine affection for either parent. Sometimes the child needs to create irritation and anger in order to justify his tendency to project unto others his difficulties of growing up. The parent, harboring subconscious hostility toward the child, reacts with anger toward the child's misbehavior, thus justifying his own inability to love the child. In tracing the need of belonging in the growing child, his need for acceptance and his quest for identification with a meaningful adult are described.

The child becomes aggressive or antisocial as a need to atone, to assuage a deep seated disquietude about his presence in this world. He counters the deep seated fear of parental anger with another fear of something that he has himself created, manipulated, and dared. Thus the author ascribes to delinquency an expression of insecurity by the child due to a grim awareness of being isolated, being unable to trust, nor depend on his immediate, close to him, adult. 14 references.—*Author's abstract.*

67. *The Premedical Status.* MAX S. MARSHALL, San Francisco, Calif. J. Med. Education *26*:287-93, July 1951.

A plea is made for a realistic approach to the problem of premedical students. The nearest medical schools can register the large number of students who, for the moment, think they are setting their goals toward medicine, without regard to whether or not there is any intention of applying to the particular school. With registration, there can be some study of the many subtle motives that lead to medicine, shunting students with obviously poor motives to other fields and favoring those with obviously sound motives. There can be an earlier change of goals for those who lack the aptitude or the diligence for medicine, before their hearts are too deeply set on it. Those who show notable aptitude and a willingness to apply themselves can be favored. Occasional lectures to or tokens of interest in premedical students, along with registration, will make them feel some kinship with medicine and its schools, meanwhile steadily deviating into preparation for other work those who should not or cannot find a place, so that the hopes of thou-

sands are not fed only to shatter coldly the hopes of all but hundreds at the last minute, with no understanding of the human reaction or recognition of our obligations. This can be done practically, without any destructive actual or pretended control of the premedical training itself. That should not be under the hands of medical schools. Meanwhile, we may well learn that premedical training is fruitful in the degree to which it helps to develop students of mature intelligence, with the will to work, independence of mind, a sense of balance, soundness of judgment, sincerity of purpose, and a right attitude toward the fellow man. These are needed for students in medicine; the qualities of the student are more important than the units. Essential courses are few, the much argued premedical curriculum is largely a myth, and varied solid courses fitted to otherwise qualified men and women, or often outside experience away from any campus, can be more valuable than any kind of prescribed courses. 8 references.—*Author's abstract.*

*For Reference Only*

68. A *Study of Need Fulfillment on a Mental Hospital Ward.* CHARLOTTE GREEN SCHWARTZ, MORRIS S. SCHWARTZ, AND ALFRED H. STANTON. Psychiatry *14*: 223-42, May 1951.

## ALCOHOLISM AND DRUG ADDICTION

69. A *Court Clinic for Alcoholics. A Description and Evaluation of the Stoughton Clinic.* MARTHA BRUNNER-ORNE, FREDERICK T. IDDINGS, AND JOHN RODRIGUES. Quart. J. Stud. on Alcohol *12*:592-600, December 1951.

The Stoughton Clinic was an experiment initiated in an attempt to deal with alcoholics in a court situation on a local level. The aim of the clinic was to substitute treatment and education for punishment and confinement. Most of the members had been in conflict with the law. The staff included a psychiatrist, a general physician, and the associate director of the Boston Committee on Alcoholism; a psychologist also participated on a volunteer basis. The court officer was a great help and encouraged both prospective and actual members to come to the meetings—frequently bringing them along himself or furnishing transportation.

The physical, emotional, and environmental factors were studied in each case. One frequently has to deal with problems of undernourishment, withdrawal symptoms, occupational, and home situations. The clinic met once a week, and the patients were treated as members not as prisoners. Following the physical examination they were given vitamins and sedatives. At present, sedation has been superseded by administration of tolserol, which provides relaxation without depression or habituation. In some instances the administration of vitamins and tolserol was continued over a period of several months. These patients have to recondition themselves to get along without liquor. During the initial period, antabuse was found helpful in some cases but only when full cooperation was assured. Following the physical examination each member had an interview with

the psychiatrist, and these individual interviews were supplemented by group interviews. Voluntary attendance was soon stimulated by the fact that help was offered in obtaining jobs and in straightening out family problems, economic problems, and legal difficulties. The members also enjoyed the group activities and felt less isolated socially.

Of 32 cases, 16 stopped drinking and became adjusted. It is believed that this project represents the first attempt to establish cooperation between the court and a clinic for alcoholics on a local level. A similar project has been started in New Bedford, Massachusetts, and in Brookline, Massachusetts. The court cooperated by suspending the sentence of an offender who was willing to attend the clinic.

70. *Chronic Alcoholism.* ROBERT P. ODENWALD, Washington, D. C. M. Ann. District of Columbia *20*:596-601, November 1951.

Studies in alcoholism reveal that there are over 50 million alcoholic drinkers in the United States, over two and one-half million of these drinking to excess. These excessive drinkers each lose 22 workdays annually because of drinking. The nation loses 750 million dollars annually in disease, crime, and property loss as a result of alcoholism. The effect on the alcoholic himself is depression of the higher brain centers controlling voluntary behavior, impairment of acquired skills, and progressive mental deterioration. His will and judgment fail to function properly; moral inhibitions fade. Chronic intoxication may create a psychosis.

Organic and psychic causes underlie chronic drinking. Social factors play an important role, as the increasing complexities of society bring increased anxieties to its individual members. Social drinking has become a custom and control of drinking becomes increasingly difficult as the person endeavors to become integrated within his chosen group. Whereas alcoholism can create mental disturbance, the opposite is more often true. An alcoholic may be suffering from schizophrenia, manic-depressive psychosis, general paresis or epilepsy, using alcohol as an escape from his bewildering sensations; it gives a feeling of well-being which he lacks. Alcohol is, then, not the cause but a symptom of the condition. Again, a low IQ can be a cause rather than an effect of alcoholism. These individuals lack inhibitions. They enjoy the self-aggrandizing effect of alcohol. To psychopaths—the social misfits, the drifters, and derelicts—alcohol may be their only pleasure. The neurotics, on the other hand, use alcohol as a crutch to escape temporarily from insecurity and frustration. Chronicity in drinking results not from force of habit but from a mental illness. Adoption of an escape mechanism indicates emotional immaturity. The normal, well-balanced person faces reality and solves his problems rationally; the alcoholic runs from life's problems like a child.

An alcoholic is definitely a sick person—his will power weakened, his personality changed, and he drinks to excess because of an uncontrollable, compulsive craving for alcohol. As he sinks lower and lower, he and his family show a pathetic eagerness for cure. Every advertised remedy brings new hope. Antabuse, still in the experimental stage, is not without danger and, moreover, it cannot correct the underlying personality difficulty which led to formation of the habit. Cure of an

alcoholic depends on the patient's whole-hearted desire to recover. The first step in treatment is medical—getting him over the bodily effects of the ingested alcohol. The second step is psychologic—teaching him how to live without alcohol. The second step depends on the patient's cooperation with the psychotherapist. Psychotherapy aims to readjust the partially disorganized personality, and only certain types can be expected to respond. Mental defectives cannot be cured; they must be segregated. The psychotic can recover only after the underlying personality disorder is treated and cured. The psychopath is practically hopeless, as is the chronic drinker who has suffered physical and mental damage. The neurotic victims of an anxiety complex can be treated only by psychotherapy—regarded as a sick person and treated with infinite patience and tolerance. He must be persuaded that recovery is possible.

Alcoholics Anonymous provides a kind of fellowship and brotherhood wherein alcoholics can discuss, freely, their common problems. Once an alcoholic has recovered, he has to fight the tendency to relapse. He must avoid mental conflicts, emotional upsets, and over-fatigue. The main problem in alcoholism, however, is prevention. Society must awaken to the fact that the problem exists and take steps to cope with it. 15 figures.—*Author's abstract.*

71. *Blood Alcohol Levels in Relation to Driving.* H. W. SMITH AND R. E. POPHAM, Toronto, Ontario. Canad. M. A. J. *65*:325-28, October 1951.

This study comprises an analysis of the alcohol data obtained in a recent survey of traffic accidents. The results pertain to the concentrations of alcohol which are important in actual driving situations.

The 919 drivers included in this survey represent 93 per cent of those involved in personal-injury motor vehicle accidents in the City of Toronto between May 17 and August 17, 1950. The "intoximeter" was employed for the indirect determination of blood alcohol concentrations through breath analysis. During the survey, breath samples were obtained by police officers from 59 per cent (542) of the drivers in the series. This group included 77 per cent of those who they considered "had been drinking." It was estimated from all the available data that 23 per cent of the drivers (involved in 30 per cent of the accidents) in the survey had more than a trace of alcohol in their blood; breath samples were actually obtained from 138 (75 per cent) of these.

This study indicates that the minimum concentration of alcohol in the blood at which drivers are significantly affected is in the range of 0.03 to 0.05 parts per hundred. In this respect, these data, which pertain to actual driving situations, support the results of laboratory experiments, practical road tests, and previous surveys.

The results of this survey are consistent with the presumption, largely based on experimental evidence, that all drivers are affected when their blood alcohol concentrations are 0.15 parts per hundred or higher. 9 references. 2 tables.—*Author's abstract.*

72. *Alcoholism and Social Stability. A Study of Occupational Integration in 2,023 Male Clinic Patients.* ROBERT STRAUS AND SELDEN D. BACON, New Haven, Conn. Quart. J. Stud. on Alcohol *12*:231-60, June 1951.

Social characteristics noted in the records of 2,023 male patients from 9 outpatient alcoholism clinics have been analyzed with particular attention to data on occupational history. Five of the clinics are located in Connecticut; the others are in New Hampshire, Oregon, Pennsylvania, and Texas.

Until very recently most impressions of the alcoholic have been gained from two types of source: one, the court, jail, the public shelter; the other, the mental institution. Alcoholics not resorting to these types of facility or to private sanitariums generally have been unrecognized, and the alcoholic population as a whole has been characterized by stereotypes derived from its derelict or psychotic elements. Even when overcome by physical, mental or social deterioration and when their condition has progressed to a point where continuing relationships with family, friends and employers have become intolerable, the true nature of the difficulty often has been concealed or ignored.

Characteristics of patients seen in alcoholism clinics depict a most significant and hitherto unrecognized segment of alcoholics who display a relatively high degree of social and occupational integration.

Over half of these patients were married and living with their wives when first seen in the clinics. The percentage who had never married was no greater than normal expectancy. Three out of four of the men were living in an established household. Nine out of 10 had lived in their present town or residence for at least two years.

More than 80 per cent of the patients were under 50 years of age; a fourth were under 35. An impressive number had sought treatment for their uncontrolled drinking before reaching a state of personal and social disintegration.

Nearly two thirds of the men were gainfully employed when they first came to the clinic; 56 per cent were known to have held steady employment on one job for at least 3 years, 25 per cent for at least 10 years. At least seven out of ten have held jobs involving special skills or responsibility.

A fifth of the men came to the clinics of their own initiative. Another 20 per cent came at the suggestion of friends or relatives, while 12 per cent came through Alcoholics Anonymous, and 12 per cent through the courts. Only 2 per cent were referred by employers.

From the findings of the present study, it can be concluded that this segment of alcoholics, consisting of men who have maintained a high degree of family, community, and occupational integration, although hitherto not identified, is a most significant element in the entire alcoholic population.

The extent to which these alcoholics are seeking the services of the few available community clinics for the treatment of alcoholism indicates the important role which such clinical facilities are playing in the over-all approach to the problems of alcoholism. The role of the clinics appears all the more impressive in view of the

readjustment potential contained in the social stability displayed by fully two thirds of their patients.

Finally, the present study indicates that a large number of alcoholics are employed—by industry, business, and government—in positions running the entire gamut of responsibility and technical requirements and that many others have until recently been so employed. Clearly evident is the potential of the outpatient clinic for establishing educational and therapeutic programs aimed at helping a substantial proportion of these men to achieve social and personal adjustment and at restoring their productivity. 8 references. 21 tables.—*Author's abstract.*

73. *Treatment of Alcoholism with Tetraethylthiuram Disulfide in Ambulatory Patients (Les cures de desintoxication alcoholique par le disulfure de tetraethylthiurame, en milieu "chaminof").* LOUIS BEZY AND VUATHIER. Bull. Acad. nat. méd. *135*:378-83, July 3, 1951.

With the method of treatment employed, in ambulatory patients, the patient continues his usual manner of life, without interruption of work, except possibly for the first few days. When the treatment is begun, patients are seen every three or four days and their reactions to the treatment carefully observed; later, they are seen less frequently, but are kept under constant medical supervision. In addition to antabuse, patients are given vitamin B complex, twice a day, with the noon and evening meal. The antabuse is taken in the morning before breakfast, beginning treatment after abstention from alcohol for 24 hours. With this method of treatment, the daily dose of antabuse has never exceeded 0.50 Gm., and in most cases 0.25 Gm. daily has given satisfactory results, reducing this to 0.125 Gm. as soon as possible in each case. With this dosage, severe reaction to the drug has not been observed. Eighty-four patients have been treated by this method, all accepting treatment voluntarily. Results are reported in the first 50 cases: the patients still undergoing treatment are showing favorable progress. Of the 50 patients treated, 40 are entirely cured of alcoholism; 20 of them are total abstainers, but 20 drink moderately (as, for instance, at meals) without ill effect. Two other patients are apparently cured but 1 of these is living under unfavorable conditions. The other patient did not complete the full course of treatment; there was 1 complete failure and 2 patients with recurrences, requiring further treatment.

74. *A New Adjurant in Postalcoholic Psychomotor Agitation.* MARTIN D. KISSEN, H. EDWARD YASKIN, HAROLD F. ROBERTSON, AND DAVID R. MORGAN. Quart. J. Stud. on Alcohol, *12*:587-91, December 1951.

There is a crying need for the relief of psychomotor agitation in alcoholics in the period of recovery from a bout of intoxication. Dimethylane (2,2-diisopropyl-4-hydroxymethyl-1,3-dioxalane) has been found to reduce, markedly, the time required for control of this symptom. No toxic effects were observed with the doses administered.

Following basic treatment consisting of administration of a minimum of 1,000 cc. of saline solution containing 10 per cent glucose, water-soluble vitamins, and 10 units of insulin by intravenous injection, the control group was given varying doses of barbiturates and the experimental group, dimethylane. The latter was administered in gelatine capsules of 0.25 Gm. each. One capsule was administered four times daily and the patient observed every four hours thereafter. The drug was discontinued when the patient had shown a four hour freedom from psychomotor agitation. The experimental group comprised 42 cases and the control group, 54 cases. Of the experimental group, 37 (88 per cent) were found free from psychomotor agitation in 38 hours, with an average of 23.8 hours. Of the control group, 31 (57 per cent) were found free from psychomotor agitation in 38 hours, with an average of 38.3 hours. 4 references. 2 tables.

75. *The Treatment of Alcoholism with Tetraethylthiuram Disulfide in a State Mental Hospital. A Clinical Study Based on 43 Cases.* IAN A. SHAW. Quart. J. Stud. on Alcohol *12*:576-86, December 1951.

The TETD, or antabuse treatment, was administered only to inpatients. When they were sober, they were orientated to TETD treatment, instructed how to use this drug, and informed that if they took these pills they would not drink. Following physical examination, a determination of the mental status, medical and psychiatric histories, and various laboratory tests were performed in each case. The latter included blood counts, serology, fasting blood sugar, bromsulfalein liver function test, phenolsulfonphthalein kidney test, urinalysis, and electrocardiograms. In most cases the Wechsler-Bellevue intelligence test was made, and the basal metabolic rate was determined.

The initial dose of TETD consisted of 2 Gm. the first day, 1.5 Gm. the second day, 1.0 Gm. the third day, and 0.75 Gm. the fourth day. On the fourth day, an experience session was given. During this session, the patient was given whiskey to produce a reaction sufficiently uncomfortable to make him refuse more liquor. The patient must be kept under the closest observation for the next 24 hours; he is then returned to the regular ward. Repeated sessions at weekly intervals are given with much smaller doses of alcohol, until the minimum daily dosage sufficient to produce flushing and palpitation has been determined. The patient is then discharged and followed up as an outpatient.

Great caution is advised in administration of this treatment in patients suffering from myocardial failure or coronary disease, cirrhosis of the liver, chronic or acute nephritis, epilepsy, thyroid disease, pregnancy, drug addiction, diabetes, asthma or blood dyscrasias. It has been recommended that paraldehyde be withheld from anyone planning to take or already taking TETD.

A wide variation in reaction to the experience session was noted. The average amount of whiskey administered was 2.5 oz., or 1.25 oz. alcohol. Reactions usually are severe. Agents to counteract shock include oxygen, atropine, ephedrine, and intravenous fluids. Oxygen by mask and atropine in doses of 1/50 gr. are especially effective in reversing the reaction. Two untoward incidents occurred in this

series of 43 cases: one in a patient, with myocardial damage, in whom blood pressure fell to an unmeasurable level with loss of consciousness and a 2:1 heart block (he recovered completely); the other patient had suffered a skull fracture, had psychometric evidence of deterioration, and suffered a grand mal seizure at the peak of the reaction. Most of the patients complained of an uncomfortable sensation of fear of imminent death and general fear.

All of these patients were followed up following discharge for 7 to 16 months. Of the whole series, 7 men and 1 woman remained sober for at least six months, whereas 33 men and 2 women reverted to their former drinking habits within six months (usually two months).

As regards the Straus and Bacon social stability test, those in the group of failures averaged 1.0, while those in the successfully responding group averaged 2.4. Thus the higher the social stability index, the more likely may one expect a successful result of TETD treatment.

For proper treatment, the patient always must be hospitalized for the experience sessions. Severe reactions are encouraged. It is suggested that psychologic factors may play a part in determining the result of treatment. Without formal psychotherapy, as in this series, the results showed eight successes and 35 failures. Many of the patients discontinued the treatment owing to rising anxiety. If the latter could be relieved by psychotherapy, it is believed that more patients might have completed the treatment to a successful termination. There seems to be a cycle of sobriety without anxiety, then increasing anxiety, followed by intoxication. TETD by preventing the alcoholic from drinking allows mobilization of conscious anxiety, which then can be utilized in psychotherapy. It thus renders the alcoholic a better prospect for psychotherapy, while permitting him to maintain a better community adjustment. 8 references. 1 tables.

76. *The Treatment of Opiate Addiction with Intravenous Alcohol.* GEORGE P. CHILD, Albany, N. Y. New York State J. Med. *51*:1521-23, June 15, 1951.

The ability of becoming addicted to opiates is a property common to many living things. During the development of the addiction, enzyme systems become adapted insidiously to the presence of the opiate and finally become dependent on it. The metabolic readaptation to the withdrawal of the drug is a more violent process. Since the opiate is being detoxified or excreted, constantly, it must be supplied at intervals to prevent the development of withdrawal effects.

In man the extreme discomfort, which develops when his opiate concentration falls below a certain amount, drives him to ameliorate his symptoms by restoring his drug level. If the opiate is not supplied, the signs and symptoms of withdrawal reach their maxima in three to four days and decline rapidly to become quite mild in six to seven days. By following the pyrexia, hypertension, tachycardia, and tachypnea, the course of the withdrawal may be followed objectively. When these signs return to normal, without the administration of an opiate, the addiction is terminated. In the absence of any specific drug for the treatment of addiction,

symptomatic therapy must be used with the avoidance of the belladonna and sympathomimetic drugs.

Intravenous ethanol possesses many pharmacologic properties which are useful in treating the abstinence syndrome. The higher blood and spinal fluid levels of alcohol produce cortical depression with analgesia and false euphoria as well as vasodilatation and antipyresis. With the addition of vitamins, glucose, salts, and amino acids, the nutrition of the patient is maintained. In this manner 12 patients addicted to narcotics were broken of their addiction in four to six days with a minimal display of withdrawal signs or symptoms. Three to four liters of 5 per cent alcohol were required each day, using a polyethylene catheter in patients with "difficult" veins.

It must be emphasized that this part of the complete treatment of addiction is simple compared to the longer follow-up required for the rehabilitation, mental and emotional stabilization of the patient, and the education of his family and friends. 5 references.—*Author's abstract.*

## BIOCHEMICAL, ENDOCRINOLOGIC AND METABOLIC ASPECTS

77. *Physiopathology of the Psychoses, 1950/51 (Zur Pathophysiologie der Psychosen, 1950/51).* CARL RIEBELING, Hamburg. Fortschr. d. Neurol. u. Psych. *19*: 452-84, September-October 1951.

The author reviews the literature of the past year, dealing with the periodicity and rhythm of life, and its effect on the blood cells and water metabolism, with the stress and adaptation reactions of the pituitary and other endocrine glands. 143 references.

78. *Adrenal Cortical Function in Chronic Schizophrenia. (Stress, Adrenalin-Test, ACTH-Test.)* ARILD FAURBYE, PER VESTERGAARD, FINN KOBBERNAGEL, AND ANNELISE NIELSEN, Copenhagen, Denmark. Acta Endocrinol. *8*:215-46, 1951.

In continuation of previous work from Sct. Hans Hospital on adrenal cortical function in schizophrenics and stimulated by the findings of the Worcester group of investigators (Pincus, Hoagland et al.) of signs of adrenal cortical insufficiency in schizophrenics, the authors decided to investigate the adrenal cortical function in chronic schizophrenic women.

On comparable groups of chronic schizophrenic women with a firmly established diagnosis of schizophrenia (of long standing), in the continental meaning of this term and normal controls, a modified Thorn adrenalin test and a 24 hour ACTH test were performed. The effect of stress (injection of vaccine) on adrenal cortical function was examined in a few patients.

In the Thorn test the effect of 0.3 mg. adrenalin, administered subcutaneously, on circulating eosinophils and urinary excretion, and of intramuscular injection of 50 I.U. ACTH (Acton) on circulating eosinophils, leukocytes, lymphocytes, urinary

excretion of uric acid, 17-ketosteroids, potassium, sodium, and chloride was examined.

The ACTH test and the adrenaline test have given a uniform and clear response of adrenal cortical function in all indices in the normal controls. However, in the schizophrenics it is characteristic that the responses as measured by the different indices are uneven, the individual variation is far greater than among the normals, and in no one case are all indices in both tests clearly normal or clearly pathologic, but normal, uncertain, and clearly insufficient responses are seen side by side in the same case.

It is suggested that the discrepancy between hypertrichoses in schizophrenic women and the adrenal cortical insufficiency is due to formation of relative highly active 17-ketosteroids.

In the discussion of these findings, the unspecificity of the relative adrenal cortical insufficiency in chronic schizophrenia is emphasized. Different hypotheses explaining the insufficiency are discussed briefly; the authors are inclined to believe that the insufficiency is part of a complex cellular metabolic disturbance. The question of the significance of the findings is left open. 56 references. 5 figures. 3 tables.—*Author's abstract.*

79. *Experimental Psychoses and Other Mental Abnormalities Produced by Drugs.* W. MAYER-GROSS, Dumfries, Scotland. British M. J. 2:317-21, Aug. 11, 1951.

The author surveys the work on drugs producing abnormal mental states since the first experiments in Kraepelin's laboratory. Most of the article deals with the effect of Mescaline as described by workers in Germany; but the experiments with the more powerful drug, lysergic acid diethylamide, recently discovered in Switzerland, also are mentioned. The significance of these experiments for psychiatric theory and practice is discussed as well as probable lines of future research. 24 references.—*Author's abstract.*

## CLINICAL PSYCHIATRY

80. *Newer Concept of Psychopathic Personalities.* ROBERT B. MILLER, New York, N. Y. Dis. Nerv. System *12*:330-37, November 1951.

A review is presented of 50 cases of psychosis with psychopathic personality; 3 nonselected cases are described in detail. The diagnosis of psychopathic personality was made on the basis of accepted criteria. Of 50 cases, 44 were diagnosed as psychotic with a psychopathic state. All except 5 showed formative period factors instilling marked insecurities, even though the child was considered as aggressive and spoiled by relatives. It was impossible from this relatively small series to determine whether overprotection or being thrown on his own resources early was more likely to produce psychopathic behavior. There appeared to be no more hereditary background in this so-called psychopathy than in the general population. Many diagnosed psychoses with psychopathic states, with what

seemed like classical symptoms, were shown to have the latter only secondarily.

Of the 3 cases described in detail, one, a 14 year old boy had had repeated conflicts with the law; the second, a man of 33 years of age, was described as vicious; and the third, a man of 50 years, was given to inveterate gambling.

In these cases there were many psychopathic traits, but closer scrutiny revealed deeper determinants as altering their manifest meaning. Regarding sexuality, so-called psychopathic sexuality may be psychopathologic but is not necessarily a psychopathic trait. All of the cases had in common symptoms accepted as being pathognomonic of constitutional psychopathy. Each symptom, regarded from a dynamic standpoint, may be fitted into one or several other diagnostic entities. Cases of dementia praecox, amentias, psychoneurosis, and psychosis with organic disease, all have symptoms, which, if isolated, could also fit into the complex of psychopathy.

With a dynamic approach, the mechanisms behind symptoms are revealed and diagnoses can be revised. In the present series not one of the 50 cases stood up as being psychopathy when the mechanisms were probed. Most so-called psychopaths fall into the diagnosed groups usually more amenable to treatment. A review of medicolegal situations in which the patient was formerly considered as legally sane is urged. With proposed legislation in regard to the "sexual psychopath" this becomes even more important. A plea is offered that symptoms of psychopathy be reconsidered and the patient be re-evaluated as a candidate for treatment as well as for medicolegal purposes.

81. *Long-Term Study of Combat Area Schizophrenic Reactions. Preliminary Report.* HERBERT S. RIPLEY, Seattle, Wash., AND STEWART WOLF, New York, N. Y. Am. J. Psychiat. *108*:109-16, December 1951.

One hundred patients with schizophrenia or schizophrenic-like reactions, occurring in a combat area, have been investigated. Follow-up data over a period of five to eight years, after the initial hospitalization, were obtained through records, questionnaires, and personal interviews.

There was a high incidence of psychopathologic symptoms prior to the illness developing overseas. The most common precipitating factors appeared to be traumatic incidents in combat, family problems, sexual conflicts, prolonged overseas service, difficulty in accepting responsibility, dissatisfaction with the army assignment, and problems in interpersonal relationships with others in the organization. Eighty per cent of the patients were evacuated to the United States within two months of hospitalization.

On reaching the United States, one-fifth had shown marked symptomatic improvement. After two months of hospitalization, over a third of the patients had been discharged. Only four were continuously hospitalized for more than a year. Comparison of pre-war and post-war adjustments revealed that general health, ability to function at work, family relationships, and social adaptation were all poorer; the sexual adjustment was essentially unchanged. There was a gradual trend toward decrease in disability, though personality deviations characteristic

of schizophrenia persisted. After 5 or more years, severely handicapping symptoms were present in one-fifth of the patients. Eleven had had further hospitalization. Although the amount of disability compensation had been gradually reduced, over three-fourths of the patients were still receiving some benefits.

The long-term course of the patients studied indicates that schizophrenia in the military service does not differ essentially from that occurring in civilian life. Some schizophrenics functioned in the army for long periods prior to the acute episode despite psychopathologic symptoms. Vulnerability in civilian life to types of stress similar to those encountered in the armed forces indicates that such individuals should not be accepted for military duty. A proper evaluation of assets and deficiencies may lead to better military assignment and lessen the number of psychiatric hospitalizations. A policy of returning soldiers to the United States after a definite period of service overseas may be of use in decreasing the number of psychiatric casualties. The physician with an understanding of psychiatry may be of great help in preventing and treating psychiatric casualties. Since personality illnesses are a major problem in the military services, whenever it is feasible, special courses or orientation periods in psychiatry should be offered to medical officers. There has been too much emphasis on granting disability compensation and too little on rehabilitation. Continuous treatment efforts can help many with schizophrenia to reach or maintain their best level of adjustment. 6 references. 5 tables.—*Author's abstract.*

82. *The "Empty Bag" Type of Neurotic.* E. BERGLER, New York, N. Y. Psychiat. Quart. 25:613-17, October 1951.

Some neurotics, regressed to the oral-masochistic level, cling for an interminable period to pseudo-aggressive tactics in their relation to people. In analysis, they learn that the purpose of their unconscious actions is to provide an alibi to their superegos, which accuses them of masochistic submission. To counteract the reproach, defensive aggression is mobilized, which, in turn, leads to new conflicts, since the victim retaliates. On the basis of case histories, the thesis is presented that what differentiates the incurable type of this neurotic from the curable, is not the structure of the conflict or a lack of working through in transference and resistance, but a specific structure of the unconscious ego. In incurable cases, the ego is so weak and empty that, bereft of its typical defense, it has nothing to offer, and is incapable of finding a more normal elaboration. The term "empty bag" is suggested for this group of severe neurotics.

83. *Prognostic Importance of Delusions in Schizophrenics.* GEORGE W. ALBEE, Pittsburgh, Pa. J. Abnorm. & Social Psychol. 46:208-12, April 1951.

The data used in the present study were abstracted from existing hospital records. Verbatim transcription of the examining psychiatrists' reports on the delusional content of patients' thinking was copied onto filing cards for later classification. Information which would enable the placement of patients into an operationally

defined category with respect to outcome of treatment was also coded on the cards. Both of the classification systems are described. Recording of the delusional material and of the outcome of treatment was made at different times to reduce the danger of contamination of the results. After the material bearing on patients' delusions had been classified, appropriate statistical technics were applied to determine whether there were significant differences in the incidence of types of delusions found in those patients later classified as "recovered" as compared with those patients later classified as "unimproved."

There is a greater proportional incidence of self-condemnatory delusions in schizophrenics who improve or recover than in schizophrenics who remain unimproved.

There is a greater proportional incidence of persecutory delusions in schizophrenics who fail to improve than in those who improve or recover.

It is necessary to note, however, that some schizophrenics with self-condemnatory delusions fail to respond to treatment, while some patients with persecutory delusions apparently recover. The presence or absence of a certain type of delusion cannot be said to imply a definite prognosis in a specific case, although it has prognostic value for group predictions. The present study reaffirms previous findings which deny certain prognostic significance to any one sign, but offers evidence of significant relationships which should have relevance in theoretical formulations. It is suggested that persecutory and self-condemnatory delusions reflect different levels of object-relationships, which may help account for their prognostic significance. 8 references. 2 tables. —*Author's abstract.*

84. *A Criticism of the Terms "Psychosis," "Psychoneurosis," and "Neurosis."* EARL M. BOWMAN AND MILTON ROSE, San Francisco, Calif. Am. J. Psychiat. *108*:161-66, September 1951.

Two of the most fundamental and widely used terms in psychiatry are "psychosis" and "psychoneurosis" or "neurosis," but there is a great deal of confusion, both practically and theoretically, in defining and applying these terms. The reasons for variation in the use of the basic terms in psychiatric classification are to be found partly in the origin and historical development of the use of the terms and partly in the fundamental problems of scientific method and psychiatric classification.

The term "neurosis" was first used in the eighteenth century to designate functional diseases of the nervous system. The term "psychosis" was introduced in 1845 to refer to the psychologic manifestations of a mental disorder, in contradistinction to the underlying physiologic condition. Later, a legal and social distinction that was convenient but certainly not scientific was made between the "insanities" and the milder disorders, called, respectively, "psychoses" and "neuroses." Most present-day attempts to define psychosis and neurosis assume that they represent either quantitative or qualitative maladjustment at some stage in the psychobiologic or psychologic developmental process. A precise and universally accepted definition of the terms has never been established. The sole justifica-

tion for using them has been the practical necessity for diagnostic categories as teaching aids and in administrative recording. It is important that serious attention be given at this time, when psychiatric nomenclature is undergoing radical revision to the possibility of completely discarding the problem terms, psychosis, psychoneurosis, and neurosis, in favor of diagnostic distinctions which will provide a flexible framework within which psychiatric knowledge can be expanded without distortion and with a maximum of precision and clarity.

The proposed new "Nomenclature of Diseases" contains definitions which are largely descriptive, with the addition of a certain amount of psychodynamic theory as to the nature and origin of the clinical conditions described. We suggest that the term "mental disorder" should be used to describe all psychiatric disorders, these to be subdivided into (1) mental disorders caused by, or associated with impairment of brain tissue function, and (2) mental disorders of psychogenic origin or without clearly defined physical cause of structural change in the brain. The terms "psychosis" and "psychoneurosis" would be dropped as subheadings. If the difference in degree that is now the rough basis for distinguishing psychosis and neurosis is maintained as the criterion for establishing separate diagnoses, the terms "mild, moderate, or severe" could well be substituted for the terms "with psychotic, neurotic, or behavioral reactions." Definitions of diagnostic terms must be constantly refined and clarified, especially with respect to how much psychodynamic theory is to be included as an essential part of each definition. The limitations of our scientific understanding in the field of psychiatry are nowhere more evident than in our use of diagnostic labels that are vague and ambiguous in meaning and have little reference to the actual clinical conditions that they purport to describe. 8 references.—*Author's abstract.*

85. *Diagnosis and Treatment of Anxiety States.* JOSEPH HUGHES, Philadelphia, Pa. Delaware State M. J. 23:197-200, August 1951.

It is emphasized that the early recognition of pathologic anxiety is one of the most efficient means for reducing the incidence of chronic emotional illness. In classifying the anxiety states, it is emphasized that the dynamics of a psychoneurotic reaction are determined by conflicts in the field of emotional communication: parent-child, sibling, or group relationships. Anxiety manifests itself in an immaturity reaction or in emotional instability under conditions of minor stress and constitutes a pattern of behavior of life-long duration. When it is a symptom of a psychosis, anxiety appears as a panic reaction, preceded or accompanied by chaotic, disorganized behavior and gross distortion in accepted values, with personality disintegration, emotional disharmony, and sudden changes of mood, plus inability of the patient to be close to or effectively related to another person.

Among the sources of anxiety in present cultural patterns may be mentioned threatening infantile or childhood experiences, poor conditioning for adult life, failure to attain life's goals (important after 40 years of age), overwhelming environmental demands, and situational maladjustments.

The results of psychotherapy for anxiety states in a series of 478 patients ob-

served in the Veteran's Psychiatric Clinic at the Woman's Medical College are discussed. Treatment was given for one hour weekly for 16 months. Of 176 patients with psychoneurosis, 36 per cent showed marked improvement, 51 per cent moderate or slight improvement, and 13 per cent no improvement. Of 224 patients with character neuroses, 0.4 per cent showed marked improvement, 41 per cent slight or moderate improvement, and 58.6 per cent no improvement. Of 78 cases with psychotic or latent psychotic reactions (schizophrenia), 41 per cent showed marked improvement, 33 per cent slight or moderate improvement, and 26 per cent no improvement.

In another clinic, the same psychiatrists treated 50 patients with severe psychosomatic disorders. Of these, none made a complete recovery, in spite of one year of combined psychiatric and medical treatment. A group of 10 per cent showed slight improvement following improvement in their home and environmental conditions, thanks to the efforts of psychiatrists, public health psychiatric nurses and psychiatric social workers.

The determining factors in recovery appeared to be the patient's life situation, his inner resources, and the possibility of changing or improving unfavorable social factors. Anxiety is best relieved by the communication of thoughts and feelings to another person and by goal-directed activity. Treatment may be determined by emotional cues revealed during interviews. It is important to realize that the precipitating event constitutes the last event in a long series of emotional traumatic experiences. Interviews of 30 to 60 minutes usually suffice and should be continued until complete confidence is attained. An attempt must be made to break through the unconscious feeling of guilt and anger, and a critical attitude must be avoided; any approval encouraging the neurotic pattern must also be shunned. Since many of these cases are seen in their earliest stages by the general physician, it becomes his duty to recognize them and treat them to the best of his ability without making any psychiatric interpretations beyond his own training and experience.

36. *Research and Changes in Conception of the Schizophrenia Problem 1941–1950. (Forschungen und Begriffswandlungen in der Schizophrenielehre 1941–1950).* M. BLEULER, with the cooperation of GAETANO BENEDETTI for the Italian literature. Fortschr. d. Neurol., Psychiat. *19*:386-452, September-October 1951.

Contributions to the study of schizophrenia in the past decade are reviewed by the author. Revolutionary progress has been made in this field in the past few years. The concept of a Mendelian predisposition to schizophrenia is fading more and more, while the significance of familial special sensitivities of manifold type is being stressed. The will enters more prominently into the new conception, and family investigation no longer represents the sole method for studying the hereditary aspects but is considered more in relation to environmental conditions. The disease is no longer explained on the basis of a specific schizophrenic somatosis, and more stress is placed on delving into the physical sequelae of the emotions and the general reaction to stress. Nor is there any new evidence that schizophrenia is a

disease of the brain. Many relations of individual schizophrenic disorders have been correlated with endocrine disturbances, which also depend upon adjustment to strain. The classic descriptive psychopathology has given way to psychoanalytic explanatory psychology and the conception of the personal experience of the patient as a whole. Studies of the course of the disease reveal its manifold forms. Physical treatment is now directed toward stimulating general adjustment, as indirect psychotherapy or merely as symptomatic therapy. Psychotherapy has made marked progress and is being carried out from various aspects and different working hypotheses. Nothing new has been contributed from the neuroanatomic or neurologic standpoint. Buscaino considers schizophrenia as a toxic organic psychosis caused by infection with intestinal bacteria and has obtained better results with his special vaccinotherapy than with other methods. The assumption of a single schizophrenic anlage has not been denied but has been considerably shaken and is limited in its significance. Development and reorientation in twin investigation are noted.

Negatively, schizophrenia may be recognized by the absence of the relatively simple psychoorganic relations seen in diseases of the psychoorganic syndrome. Epidemiologic rather than constitutional causes are emphasized for the correlation of schizophrenia and tuberculosis. It is urged that future investigations should concentrate more on the interplay or unity of environment and anlage. The majority of the bodily findings in schizophrenia are now regarded as expressions of changed emotional tension.

Treatment is nonspecific rather than causal. The disease is curable in its early stages. Shock treatment has been perfected in its details and psychosurgery has only very limited indications. Physical treatment should be directed toward aiding psychotherapy and the various aspects of institutional and occupational treatment are discussed, emphasizing the value of nonrestraint and recognition of the patient as a personality. Schizophrenia is now regarded as wholly or principally a personality disturbance in adjustment to the difficulties of living. In a few years or decades the hopes based on this working hypothesis may be fulfilled. 1101 references.

## GERIATRICS

87. *Psychiatric Aspects of Aging.* LEONARD E. HIMLER, Ann Arbor, Mich. J. A. M. A. *147*:1330-31, Dec. 1, 1951.

Psychiatric diseases of the aged may be classified into three groups: presenile changes beginning as early as the fourth decade; disorders of the involutional period at 45 to 60 years of age; and senile mental disease beginning after the age of 60 to 65 years.

It is stressed that the physical, psychologic, and chronologic ages are not necessarily parallel. The great majority of aging persons retain their full mental faculties. In a series of 477 old persons, 81.8 per cent were found to be mentally normal; of the 18.2 per cent remaining, 14.4 per cent were borderline cases, and only 3.8

per cent showed definite mental disability. In the United States, one third of patients admitted to mental institutions are over 60 years of age. Of those admitted to mental hospitals, 38 per cent are suffering from senile psychosis or psychoses associated with cerebral arteriosclerosis. The reasons for placing these persons in institutions are sociologic rather than psychiatric. In geriatrics, preventive treatment is coming to the fore. Especially for borderline conditions, many disciplines are indicated, and the medical, vocational, and environmental aspects are often as great as the psychiatric problems. Treatment of this kind may delay institutionalization. The characteristic personality manifestations of old age are listed, including frustration due to diminished ability. Health, finances, loneliness, the feeling of not being wanted, of having outlived usefulness, the fear of losing one's place in the community may all be involved. Precipitating factors include such events as the death of the mate or an intimate associate, the threat of disabling physical disease, of financial difficulties, or new, strange surroundings.

Physical symptoms in the aging are chiefly gastrointestinal. The neurotic development in these cases is more diffuse, with emotional depression a prominent feature. Frequently, cerebral impairment will be the least important factor requiring psychiatric treatment. Simple deterioration, with failure of memory, confabulation, restricted mental activity and apathy, aberration of talk, loquacity, rambling, loss of interest, and desire for some new occupation are characteristic symptoms. The patient may show a morbid dislike of new things or new ideas, with lack of interest and ability to keep up personal appearance, pathologic emotional reactions under stress, and occasional asocial behavior. It is only the last-mentioned phase which justifies commitment; social and environmental conditions must be changed so that the patient can live without danger to himself or others. If the patient is combative, destructive, aggressive, or subject to extreme depressions, or is persistently noisy with hallucinations, and delusions, or bewilderment, he should be placed in an institution.

The first step in preventive therapy lies in a better understanding of normal physiologic and psychologic aging. The patient must be encouraged to continue useful interests and activities and to lead an adequate social life, as well as to be of some use in the community. 5 references.

88. *The Relation of Writing Speed to Age and to the Senile Psychoses.* JAMES E. BIRREN AND JACK BOTWINICK, Baltimore, Md. J. Consult. Psychol. *15*:243-49, June 1951.

Measurements of the speed of writing digits and words were made on 554 subjects between the ages of 16 and 89 years and on 35 patients institutionalized in mental hospitals for senile psychosis or cerebral arteriosclerosis with psychosis. All subjects had four or more years of schooling and had English as their native language. The subjects were required to write digits and short words as quickly as they could for a maximum of two minutes each. The estimated reliability of the two minute tests of digit and word writing is 0.90 and above.

Large age differences were found for both speed of writing digits and words;

the difference between subjects aged 16 to 20 and subjects 80 to 89 years was —4.9 $\sigma$ for digits and —5.8 $\sigma$ for words, or a decline of 70.7 and 66.5 per cent, respectively, in mean value. Correlation ratios, $\eta$, between age and speed of writing were 0.83 for digits and 0.87 for words.

Significantly, lower speed of writing was observed in the patients with senile psychoses when they were compared with control subjects of the same chronologic age. Differences of 0.30 digits/second, or 37 per cent, and 5.9 words per two minutes, or 27 per cent, were obtained between the control and patient populations (both P values $<$ 1 per cent). The tentative hypothesis is advanced that loss of speed in senile patients is a precursor to gross aphasic disturbances.

In view of the present results the measurement of speed of writing seems to be a valuable adjunct to the psychologic evaluation of the individual elderly person. 10 references. 2 figures.—*Author's abstract.*

## HEREDITY, EUGENICS AND CONSTITUTION

*See Contents for Related Articles*

## INDUSTRIAL PSYCHIATRY

89. *The Inhalation of Ethyl Alcohol by Man. I. Industrial Hygiene and Medico-legal Aspects. II. Individuals Treated with Tetraethylthiuram Disulfide.* DAVID LESTER, LEON A. GREENBERG, RUTH F. SMITH, AND RICHARD P. CARROLL, New Haven, Conn. Quart. J. Stud. on Alcohol *12*:167-78, June 1951.

A search of the literature pertaining to the inhalation of alcohol by man indicated that the presently accepted value for the maximum allowable concentration in the air was based on vague qualitative observations and that it was erroneous from the standpoint of industrial safety and hygiene and of no value for medico-legal purposes.

Qualitative observations were made of the effects of varying concentrations of alcohol in the air at various rates of ventilation. It is concluded that concentrations greater than 40 mg. per liter are intolerably irritating, while at concentrations between 10 and 20 mg. per liter work might be carried on, albeit not in comfort.

Determinations of the percentage of alcohol absorbed from the inspired air showed that 62 per cent of the alcohol is absorbed.

Human subjects were exposed to various concentrations of alcohol in air for periods up to six hours, at various rates of ventilation. Determinations of the resulting concentrations of alcohol in the blood indicated a simple relationship for calculating the maximum allowable concentration under various conditions of work. A maximum allowable concentration of 7 mg. per liter is proposed, which is about four times the accepted value.

It was shown that intoxication can result from the inhalation of alcohol under certain conditions. An expression has been given for calculating the concentration which may be expected to develop in the blood provided four facts are known: the

concentration of alcohol in the air, the rate of ventilation of the individual, the individual's weight, and the duration of the exposure.

Observations on patients under treatment with tetraethylthiuram disulfide showed that the maximum safe concentration for TETD-treated individuals is 2 mg. of alcohol per liter of air. 7 references. 1 figure. 3 tables.—*Author's abstract.*

## PSYCHIATRY OF CHILDHOOD

90. A *Pediatrician Views the Trends in Child Psychiatry.* JEANNE SMITH, New York, N. Y. Arch. Pediat. *68*:477-87, October 1951.

This is a review article, a critical evaluation of the new (violent) methods of psychiatric procedures practiced on children, namely: insulin, metrazol, electric shock, and prefrontal lobotomy.

The literature is analyzed for some definitive diagnostic criteria of childhood psychoses. The symptomatology is found to be contradictory and subjective; the opinions on prepsychotic personality of children diverse. It becomes increasingly apparent that only in reasoning backwards and investigating the history after an adult psychosis has developed that a clear picture of the prepsychotic personality in children is revealed. All these studies agree that the children who later developed psychoses were "model, well behaved children, who gave their parents and teachers no trouble." A characteristic first response of mothers of schizophrenic patients when asked about the prepsychotic personality of their children was: "There was nothing wrong with him; he was the best child, he worshipped me, he was the least trouble of all my children, the easiest to be trained; as far as I could see he was perfectly normal."

Psychologists who tested 100 children from 4–11 years of age before and after shock treatments concluded: "On the basis of our experience it can be said that no one interest pattern can be considered significant or diagnostic of childhood schizophrenia . . . there is no improvement in the mental continuum, there is no change in reasoning and judgment."

Prefrontal lobotomy has been undertaken in children diagnosed as schizophrenic "with a view to terminating fantasy life . . ." and eliminating fear and hate by operation, "to render it easier for them to get along in their social milieu." The results of prefrontal lobotomy and the elimination of specific cerebral functions are discussed. The younger the age at which the psychosis has begun the more posteriorly the incisions have to be made, with resulting greater disability, it is claimed. Lobotomized children have a reduced capacity for prolonged attention and effective planning, a lack of normal degree of deliberative qualities, and defects when presented with tasks requiring synthesis and analysis. There is a lack of self-consciousness, restraint, embarrassment, and an indifference to criticism. They tend to be smug, tactless and self-satisfied, indolent, lacking in ambition, and careless in personal tidiness. Convulsions recur in 12.3 per cent of cases as late as 9–12 months after operation. Lobotomy causes loss of the power of abstract thinking.

In view of cerebral damage known to result from insulin and physiologic hypoglycemic shock, the prognosis which these new procedures present is viewed with considerable concern.

91. *The Nervous Child.* E. M. CREAK, London, England. Brit. M. J. 4726:287-90, Aug. 4, 1951.

Since many general and pediatric hospitals now carry departments of child psychiatry, and since many of the simpler behavior problems never reach a specialist or a hospital department, it becomes increasingly important for the general physician to understand the common patterns of childhood neurosis and behavior disorders. Furthermore, any doctor not understanding them may tend to increase emotional strain by mishandling some situation as it exists in the family.

No doctor, whether a specialist or not, can expect to understand the roots of a problem until he has taken a detailed history, which in the psychiatric case will be a history of the whole child rather than a history of his symptomatology. In the same way the doctor will examine the child in relation to his normal behavior, how he plays or what he draws, rather than in relation to his individual difficulty. He will begin with what the child can do, so as not to lose sight of the person who has the symptoms.

Certain critical points in family life may direct his attention to precipitating factors.

Of these, none is more important than early separation from the mother. At any time within the first two years it is fatally easy to disturb irreparably that early relationship of confidence in a mother. To do so, threatens the subsequent capacity to form other relationships, of which this first and vital one is the basis. Anything disturbing it, such as physical illness or disability, extreme jealousy of a new baby, or emotional tension within the home, may create conditions in which the child fails to mature emotionally, and this risk must be appreciated so that appropriate action may be taken.

In deciding what course of action should be taken, the family doctor usually is the first in the field. If he decides to attempt therapy at a simple level, he must know what he is aiming to do. He may indeed be forced to take action because no other expert help is available. But in many such cases, his help may be exactly what is required and may further serve to keep the problem in the family setting. Resolving it then becomes an integrated facet of normal family life.

In deciding whether to try this or whether to go at once for the help of a specialist in child psychiatry, he will be wise to consider the family background. Are the parents themselves mature enough to share the responsibility? Is the crisis limited to some passing phase or is it part of a more long-standing tendency?

Sometimes a crisis is due as much to unreasonable demands on the child as to his inability to adapt by meeting those demands. The family doctor is in an exceptionally favored position to know the answers to this very relevant query. Finally,

he will seek to relate the problem behavior to the child's emotional development. He will know that certain ages are more prone to problem behavior manifestations than others, and recognizing this he will make due allowance and perhaps feel more inclined to watch the situation. This aspect of the difficulty has been explained, carefully, to the parents and, in turn, has been countered by real comprehension in them of the child's urgent needs.

Every problem, which can be seen through, successfully, to a resolution at home, enriches the family life and strengthens the child's successive moves towards independence. Where such help and understanding are not there in the home, he will be well advised to seek outside help.—*Author's abstract.*

## PSYCHIATRY AND GENERAL MEDICINE

92. *Training in Psychotherapy for All Physicians.* EUGENE ZISKIND, Los Angeles, Calif. J. A. M. A. *147*:1223-25, Nov. 24, 1951.

Every physician should be trained in psychotherapy and expect to use it in his practice, with modifications adapted to the special needs of the particular clinician and his patients. A training program, supplying the background and technics required, can be made universally available and has been evolved at the Cedars of Lebanon Hospital in Los Angeles. It is granted that one-third of the patients of the general practitioner have primary psychogenic pathologic conditions, one-third physiogenic pathology, and the remaining third both. In the first stages of psychogenic illness, most patients would resent being referred to a psychiatrist. There are moreover not enough psychiatrists to deal with all these patients. Thus the general physician must accept the responsibility of caring for emotional and social causes of illness. Inadvertent and sporadic psychotherapy will not suffice.

Under this training program, practitioners arrange to examine and treat medical patients with psychogenic problems under the direction and supervision of the staff psychiatrist, each physician treating 2 to 3 patients in hourly sessions once a week. Every week he spent one hour in consultation or supervised observation with a psychiatrist. The emphasis was placed on practical experience rather than didactic presentation and included the consideration of: (1) the fundamentals of psychopathology related to basic origin in conflict, avoiding controversial and hypothetical approaches; (2) modification of the usual diagnostic procedures with reorientations in history taking to help recognize the psychopathologic data; (3) a new diagnostic technic—eliciting the life history of the patient; (4) modification of the traditional therapeutic procedures emphasizing the interpretation of the psychogenic illness to the patient; (5) a new therapeutic technic, namely, interview psychotherapy. The emphasis is placed on a brief therapy, the objectives of the practitioner being different from those of the specialist. To date, 62 graduate physicians and 237 senior medical students have gone through the program. In the past year the chiefs of the medical outpatient department decided to incorporate the program into the regular medical clinics. The results have benefitted the

patients, physicians, psychiatrists, and the hospital, with elimination of the constantly repeated referral from one doctor to another and from one clinic to another. The physicians developed an increased efficiency in handling their patients, and the psychiatrists sharpened their skills as a result of the teaching process and improved type of case referral. The hospital profited by elimination of unnecessary laboratory procedures.

There are, of course, many deficiencies in the program but there has been no major mishap. Research on short-term diagnostic and therapeutic procedures is needed. Patients in early stages should be seen and treated before those who have reached the chronic stage of their disease, since it is in the early stages that best results are to be expected. Every physician should be taught to apply the principles and formal technics of interview psychotherapy adjusted to the limitations of his patients and his circumstances. Procedures less than ideal but not sacrificing essentials still may be effective. Brief therapy of the flexible type is the optimum procedure for the nonpsychiatrist. A gradual expansion of the program within the hospital and its clinics is planned, with segregation of chronic patients, gradual infiltration of the medical clinics, and, finally, organization of a special clinic. Inpatient wards may be serviced in a similar fashion.

93. *On Some Psychological Aspects of the Management of Labor.* N. KALICHMAN, Windsor, Ontario. Psychiatric Quart. 25:655-71, October 1951.

Stimulated by Grantly Dick Read's work, this paper was written to encourage further consideration of the principles of natural childbirth. The article emphasizes the psychologic aspects of the management of the obstetrical patient and concentrates on the problems of the woman during labor. The author illustrates his views by means of a detailed description of his contacts with a patient. These contacts were, essentially, a preparatory interview held one week before delivery and brief interviews during the labor and delivery itself. In discussing this material the obstetrician's need to implement his strictly obstetrical skills with keener understanding of the dynamics of his patients' anxieties and greater skill in dealing with these anxieties through psychologic technics is emphasized.

Two interrelated aspects of the management are described. The first is the security promoting aspects of the preparatory interview. The patient is prepared in advance by discovering what she knows and what she expects to happen. An attempt is made to correct her misconceptions. She is told in minute detail what to expect and the significance of various phenomena. She is instructed as to what activity on her part will be of benefit. During labor this instruction is reinforced by the patient being informed of what is happening, is prepared for what is coming, and instructed as to what she can do to help herself and the obstetrician in the task at hand.

The second aspect is reinforced by, and in turn reinforces, the first; it is very likely basic to a more satisfactory childbirth experience. The author emphasizes that the emotional relationship that exists between obstetrician and patient is an

instrument that can be used to allay the anxieties of the patient. Emphasis is placed on the basic human reaction to danger, namely the appeal to someone stronger for help. The obstetrician consequently must prove himself to be a source of strength for the patient. He does this through his active interest in her, by his guidance through the course of labor. The patient is encouraged in this framework to be as active as she possibly can. It is pointed out that the relative importance of activity and passivity varies throughout the labor; passivity being helpful in the first stage and activity in the second.

The advantages of the woman being conscious, active, and participating, as in "natural childbirth," is discussed. Emphasis is placed on the positive implications for the child-mother relationship and the well known effects of this relationship on the development of psychic and somatic illnesses. In "natural childbirth" the woman works for the child and what she works for she can fully possess and enjoy. The anesthetized woman may feel that the child has never been completely hers. The conscious state of the mother provides still another advantage: if the sex of the child is a disappointment, one may diminish the possible rejection of the child by dealing with the freshly aroused reactions there and then.

The author proposes that the criteria for orgasticly satisfactory coitus can be applied, profitably, to the evaluation of the success of the delivery. As in coitus, the woman should be able to experience the act at first passively and then actively as demonstrated by semi-voluntary pelvic and vaginal contraction, increased respiratory rate accompanied by involuntary sounds, and loss of consciousness as the climax is approached. Following the delivery, she should experience a calm ecstasy and freedom from tensions and loving tenderness for her child and husband. A refreshing sleep should follow and a desire to repeat the experience in the future.

The suggestion is made that the mysterious dozing of the woman in labor may have a partial explanation in psychologic terms as the withdrawal of the ego from intense stimulation.

Several problems are raised as worthy of further investigation. Is the type of labor related to character types? What relationship does the experience of the labor have to future sexual satisfaction?

The article ends with the quoting of Dr. H. Thoms on the statistical reliability of the method and the advantages in terms of maternal and fetal mortality and morbidity.

94. *Migraine.* ARNOLD P. FRIEDMAN, IRWIN KARRON, AND NAOMI DE SOLA POOL, New York, N. Y. Postgrad. Med. *11*:33-48, January 1952.

Migraine is a complicated syndrome which may present, in addition to the severe, throbbing, unilateral head pain, ocular, gastric and psychologic symptoms. Complete physical and laboratory examinations, in addition to a thorough history, are necessary prior to reaching a diagnosis. Migraine must be distinguished from various other headaches in order to assure good therapeutic results. Treatment must include drug therapy (symptomatic) as well as psychotherapy (prophylactic).

Best symptomatic relief is obtained with an oral preparation combining ergotamine tartrate with caffeine. Psychotherapy is effective in reducing the number and severity of the attacks. The patient must be taught how to live with his problems and must learn to achieve the proper balance between work and play. The common causes of therapeutic failure are: (1) incorrect diagnosis, (2) inappropriate, inadequate or improper administration of medication, (3) inflexibility of therapeutic regimen, (4) failure to recognize the variable etiology of the syndrome, (5) additional factors associated with the migraine attack, (6) inadequate patient-physician relationship. 26 references. 8 figures. 3 tables.—*Author's abstract.*

95. *Traumatic War Neuroses Five Years Later.* SAMUEL FUTTERMAN AND EUGENE PUMPIAN-MINDLIN, Los Angeles, Calif. Am. J. Psychiat. *108*:401-08, December 1951.

Ten per cent of the last 200 closed cases at the V. A. Mental Hygiene Clinic in Los Angeles in 1950 were traumatic war neuroses. Fresh cases that never have sought help before present the same symptomatology as seen immediately after the war, plus various secondary symptoms resulting from the original ones, and from previous character development. In full-blown traumatic war neurosis, the trauma combines with elements already in the personality, and the patient carries combat reactions into civilian life, experiencing the latter as a threat equal to battle. The authors have found on the one hand certain hitherto neglected or unmentioned phenomena to be of significance and, on the other, certain generally accepted statements to lack confirmation in their work.

1. Traumatic war neuroses occur in noncombatant military personnel located in a combat area with a relatively high degree of frequency. This group is vulnerable because they are exposed to traumata without the possibility of effective motor discharge of the emotions thereby engendered.

2. Guilt about killing or assailing defenseless enemy personnel, either military or civilian, is an important factor in the precipitation of a traumatic war neurosis. In such instances the superimposed military code (superego) yields to the earlier and stronger civilian prohibition against violence toward others.

3. Traumatic war neurosis can and does occur in conjunction with physical injury. Separation from the unit because of physical injury removes the influence of group morale, which serves as a deterrent to neurotic breakdown.

4. Physical injury or medical or surgical disorder, leading to enforced immobilization, seems to encourage the development of the traumatic war neurosis by depriving the individual of the possibility of discharge of tension through motor activity.

5. Speech disturbances such as stammering can occur in cases of traumatic war neurosis without any evidence of this disorder having existed previously.

6. An overidealization of the pretraumatic history occurs in cases of traumatic war neurosis. This is viewed as a defensive maneuver of the ego in its effort to

find some stable point in a world that has become overwhelming and threatening to the patient.

7. The monotonous repetition of the traumatic war experiences and combat dreams in cases of traumatic war neurosis is caused by the transformation of the world into a threatening place. The patient reacts to civilian life as if he were still in combat.

8. Changes in the details of the repetitive traumatic experiences and the combat dreams are significant indicators of the points at which the traumatic experiences are linked with pretraumatic experiences.

9. In our experience, the use of intravenous narcosis or hypnosis has not been particularly helpful in cases of chronic traumatic war neurosis. This is due to the need for developing a firm relationship with the patient because of his feeling regarding the threatening nature of his environment and the people therein.

10. We have differentiated two character groups among our cases of traumatic war neurosis, according to their pretraumatic adjustment. We have characterized them as alloplastic and autoplastic, or outgoing and inhibited. In the alloplastic, therapy is usually relatively short and consists essentially of relating combat experiences to present feelings and attitudes. In the autoplastic, a further step can be taken beyond this in that the traumatic experiences are related not merely to their present feelings and attitudes but also to the pretraumatic experiences. We feel that this differentiation is important, particularly from a practical therapeutic point of view. 8 references.—*Author's abstract.*

96. *Nervous System Manifestations in Pernicious Anemia. Results of Treatment with Liver Preparations as Compared with $B_{12}$ Therapy.* ALEXANDER SLEPIAN AND STUART L. VAUGHN, Buffalo, N. Y. New York State J. Med. *51*:1524-26, June 15, 1951.

This report is based on a neurologic study of 36 patients with Addisonian pernicious anemia. The treatment consisted of some form of liver or its extract depending on the availability of the product during the period of observation which extended up to 21 years.

The Incidence of Neurologic Abnormalities: Twenty-eight of the 36 patients or 78 per cent presented neurological abnormalities at the initial examination. Out of these 28 patients, 89 per cent presented subjective complaints and 86 per cent showed objective abnormalities.

Types of Nervous System Diseases: Eight patients (29 per cent) manifested peripheral neuropathy. Four patients (14 per cent) showed peripheral neuropathy and posterior column signs. Sixteen patients (57 per cent) showed posterior and lateral column signs with peripheral neuropathy and were classified subacute combined degeneration of the cord. In our final analysis, the four patients with posterior column signs were considered to have permanent cord damage in the absence of recovery from the cord signs after prolonged and intensive treatment.

Incidence of Age, Sex, Severity of Anemia: The average age of onset of neuro-

logic symptoms was 56 years and this was about nine years greater than in those without neurologic signs. Females were involved in the proportion of seven to three of males. Fifty-two per cent of the female patients showed spinal cord disease as compared with 27 per cent of the males. No correlation could be made in the severity of the anemia and the nervous system changes.

Factors in the Progress of Neurologic Manifestations under Treatment: Younger patients showed greater adaptability to their disease. Subjective improvement was greatest if intensive treatment was started with the early symptoms. However, the duration of the disease after the treatment was started did not alter the objective spinal cord changes in spite of subjective improvement.

The type and degree of involvement found at the initial examination were important to the prognosis. Those patients without neurologic signs, and those with peripheral neuritis only, never developed spinal cord disease even with inadequate treatment. One exception occurred, when a patient free of neurologic signs developed irreversible subacute combined degeneration of the cord while under folic acid treatment.

Under intensive treatment, neurologic signs were arrested in 29 per cent of the patients. Forty-six per cent showed progression of their symptoms, even while under treatment. Objective improvement occurred in 25 per cent of the patients and only with peripheral neuritis signs. Subjective improvement was noted in 61 per cent of the patients.

Adequacy of Therapy: The adequacy of therapy might be questioned. It was noted, however, that progression occurred in spite of intensive treatment. Conversely, patients neglecting treatments and without nervous system signs never did develop them.

Conclusions:

1. Adequate treatment is essential for final arrest of nervous system disease.
2. The more extensive the disease, the greater the tendency for neurologic progression.
3. Objective signs of spinal cord involvement are permanent.
4. Subjective improvement is due to recovery from peripheral neuritis, to improvement in general health and anemia, and finally to adaptation to disabilities.
5. Progress of neurologic disease occurs frequently at onset of treatment.

## PSYCHIATRIC NURSING, SOCIAL WORK AND MENTAL HYGIENE

97. *The Role of the Internist in a Mental Hygiene Clinic.* STEWART P. SEIGLE, ISIDORE SCHNAPP, AND ROWE A. CASTAGNA, Hartford, Conn. New England J. Med. *246*:12-15, Jan. 3, 1952.

The advantages of having an internist in a mental clinic are enumerated and include the supply of dispensary and supportive care, the diagnosis and treatment of

somatic disorders, evaluation of the importance of the organic component, and neurologic care. Of the patients treated, 50 per cent showed psychosomatic disease, the other 50 per cent consisting of dispensary and neurologic patients. Also, as an aid in diagnosis and for its educational value in permitting a free exchange of ideas, the inclusion of an internist in the mental hygiene clinic is recommended. Six cases are described in detail.

98. *A Psychiatric Social Worker in a Home for Boys and Girls.* FLORENCE GARY STELLERN, Altadena, Calif. Ment. Hyg. *35*:148-55, July 1951.

A children's institution is a strategic spot for a general mental hygiene program. The social worker sees the children in a day-by-day living experience and is, frequently, able to give interpretation or release relative to the immediate situation.

The climate in which a child lives often can be changed to meet his special needs—this being done through work with the housemothers, superintendent, school, etc.

Through parents and local agencies, suitable plans can be worked out for the child after discharge.—*Author's abstract.*

## PSYCHOANALYSIS

*For Reference Only*

99. *Psychoanalysis and Brief Psychotherapy.* LEO STONE, New York, N. Y. Psychoanalyt. Quart. *20*:215-36, No. 2, 1951.

## PSYCHOLOGIC METHODS

100. *Problems in Psychological Research in Poliomyelitis.* MORTON A. SEIDENFELD, Amsterdam, Holland. Acta Psychologica, Vol. VIII, No. 3 (1951/52).

There is a need for competent psychological research with reference to patients with poliomyelitis. Three types of patients present problems of concern to us. The first is the respirator patient. Annually, somewhere between 8 per cent and 12 per cent of the individuals who develop poliomyelitis, develop the form of the disease involving the respiratory centers in the brain. Problems associated with oxygen deprivation, alteration in $O_2$-$CO_2$ balance, variance in brain metabolism, psychic stress associated with inability to breathe normally, and psychic trauma associated with obstructed airways provide the psychologist with a fertile field for investigation. The effect of these pathologic events upon the psyche, and ways and means of overcoming them are of great concern to patient and physician alike. Other problems associated with weaning patients from respirators likewise provide us with an area of fruitful research.

The second type of concern to us are those with paralytic residuals following poliomyelitis. These represent, roughly, 50 per cent to 60 per cent of those developing this virus disease during the course of a year. The need for determining

the capacity of the patient to overcome the effect of these residuals is greatly indicated. The relationship, for example, of frustration tolerance and of level of aspiration to the success with which the patient overcomes his disability is of considerable importance.

The third group of patients are the nonparalytic sufferers from poliomyelitis who, although left essentially without obvious residuals, may suffer psychic trauma and, as an aftermath, give evidence of personality maladjustments which need to be corrected. There is a need to study the impact of the disease which may leave these people with feelings of inadequacy or inability to maintain their previous capacity for activity.

It is apparent, therefore, that poliomyelitis provides the psychologist with fertile areas for clinical and experimental investigation.—*Author's abstract.*

101. *The Use of Tolserol (Myanesin) in Psychological Testing.* MARGARET MERCER AND ARTHUR O. HECKER, Coatesville, Pa. J. Clin. Psychol. 7:263-66, July 1951.

Myanesin (Tolserol) is a drug having a transitory effect upon the midbrain in appropriate dosage. Clinically, it has been demonstrated that this drug will temporarily relieve anxiety. Exploratory studies made at this hospital suggested that the drug might be useful in studying the effects of psychosis upon intellectual functioning in situations where it is desirable to know whether lowered efficiency results from anxiety and blocking, or reflects psychotic deterioration unlikely to change.

Thirteen patients were tested in whom schizophrenia was well established. The patients had proved unresponsive to psychotherapy and various forms of shock therapy. Their verbal Wechsler-Bellevue scores were characterized by marked scatter with vocabulary and general information higher than the other subtest scores.

The patients were given $2\frac{1}{2}$ Gm. of elixir of Tolserol by oral administration. The drug requires twenty minutes to take effect and does not wear off for about forty minutes. It was the experience in previous studies that spontaneous nystagmus was the criterion for noting when the dosage was effective and that $2\frac{1}{2}$ Gm. was the amount most commonly needed to produce this condition.

In this study the dosage was kept constant to maintain standard conditions during the experiment. Tests given under Tolserol were the comprehension, digit span, arithmetic and similarities sub-tests of the Wechsler-Bellevue Scale and the free associations to the Rorschach cards.

Results of the experiments justify further investigation of the hypothesis that testing under the influence of Tolserol may provide a means of determining whether the patient retains the capacity for change or whether the psychotic process has advanced to such a degree that irreversible damage rather than loss of efficiency has taken place. 3 references.—*Author's abstract.*

## PSYCHOPATHOLOGY

102. *Psychodynamic Motivational Factors in Suicide.* H. HENDIN, New York, N. Y. Psychiatric Quart. 25:672-78, October 1951.

One hundred cases of attempted suicide admitted to Bellevue Hospital were studied by the author. Later, additional cases were observed to check tentative conclusions. On the basis of similarities in both clinical and psychodynamic findings, several major groups were evident among the suicidal patients.

Group one comprises those patients who make suicidal attempts motivated by the desire for spite and to force affection. These two factors usually co-exist although at times one may be dominant. Where the suicide attempt is part of a "lovers' quarrel," these motivational forces are uniformly exhibited. These cases are usually given a clinical diagnosis of reactive depression. Their suicidal intent is generally minimal. The fact that these patients are actively involved in relationships that are gratifying neurotic needs and have a powerful desire for the further gratification of such needs minimizes their suicidal intent. Also, often falling into group one were cases with the clinical diagnosis of character disorder or psychopath. Their attempts were frequently initiated under the influence of alcohol and were also characterized by a low degree of intent. Psychodynamically, the essential narcissism of these patients and their inability to form strong object attachments seems to "protect" them from suicidal attempts with marked intent.

Group two comprises neurotic patients who attempt suicide after the breaking of strong love-object attachments, precipitated to a great extent by their own neurotic behavior. These patients had a great need to establish other similar relationships and when they were unable to do so, serious suicide attempts resulted after from 6 months to 3 years. Some of the patients were passive figures during their love relationships; others played more active roles. In all, a great part of the patient's problems was centered in difficulties involving the expression of aggression. These aggressive drives and needs found some satisfaction in the object relationship. With the termination of this and the unsuccessful attempt to establish another, impulses involved in the object relationship were turned back on the self. In this group, clinical evidence of depression is often absent in spite of a high degree of intent.

There was another important subgroup of patients in whom the loss of a loved object was of paramount importance. These were patients in their fifties who can best be described by the terms "passive" and "dependent." They usually struggled along for a year or more after the loss of the loved object making unsatisfactory adjustments until their suicidal attempt, which often came in response to relatively small situational disturbances. A few of these passive, dependent patients had developed involutional psychoses. In the involutional patients, a loss or abandonment of the loved object, combined with feelings of guilt, were the major factors in their suicide attempts.

Group three comprises cases in whom guilt is most outstanding—predominantly schizophrenic patients. These were also patients who had clinically the greatest

degree of depression. At the surface there was evidence of incestuous longing combined with the overt expression of hostility toward parental figures. However, the guilt which the patient related to the suicidal attempt was most often bound up with the reaction to perverse sexual behavior. Sometimes the guilt was expressed in delusions and hallucinations, and suicide was a response to these. 17 references. —*Author's abstract.*

## TREATMENT

### general psychiatric therapy

103. *The Treatment of Psychoneurotics: Some Practical Considerations.* W. LINDESAY NEUSTATTER, London, England. Lancet *1*:1331-34, June 23, 1951.

The author, while not hostile to physical therapy, urges moderation in the use of E.C.T. and is opposed to "courses of treatment," citing one comprising 19 shocks without success. He also fears a too mechanistic outlook and gives examples of failure to bring psychological factors to light which were causing depressive reactions through over-enthusiastic use of E.C.T. He cites a series of 10 cases, primarily of reactive depression and anxiety, who responded well to three weeks' rest in hospital with only sedation and simple psychotherapy to show that with judicious selection such methods are useful. He urges that psychoneurotics ideally should not stay in hospital over six weeks and deprecates too many amenities as a counterincentive to recovery, especially in psychopaths. He prefers out-patient treatment, which avoids disturbing a precarious adaptation to home and work, prevents interference with the latter, and is far more economical.

Such coverage would avoid the necessity of sending many patients to hospital and of E.C.T. being given primarily out of a desire to do *something*, whereas it is really not applicable. 6 references. —*Author's abstract.*

### drug therapies

104. *Carbon Dioxide Therapy of the Psychoneuroses.* OSWALD M. WEAVER, DONALD B. PETERSEN, AND WILLIAM H. ANDERSON, Denver, Colo. Dis. Nerv. System *12*:355-61, December 1951.

Meduna's carbon dioxide treatment was administered to 13 psychoneurotics. Following a review of the literature on this subject, the effect of this treatment on psychoneuroses is explained by the theories propounded by Lorente de No. In the present series of cases a mixture of 30 per cent carbon dioxide and 70 per cent oxygen was used. No intentional psychotherapy was included, but only a brief interview permitted to explain to the patient that the treatment might or might not help him but could in any case not harm him. The reactions to treatment are not pleasant as the patient becomes frightened, believing he is not going to get

enough air. It should be explained to him that actually sufficient oxygen is given with the carbon dioxide that he will really get more oxygen than normally. After 30 to 35 treatments, the patients were asked if they felt any benefit, and if not, the treatment was discontinued unless the patient desired otherwise. Thirteen cases are described in detail. Some of these patients who had experienced no benefit from other treatments did improve following administration of carbon dioxide. Headaches became less severe in one case. The psychogenic musculoskeletal reactions in another case that showed no improvement following psychotherapy did not respond to the carbon dioxide treatment. In another case with severe pain in the dorsal vertebrae neither roentgenotherapy nor novocaine had given any relief, but the pain was much less severe following carbon dioxide treatment. Good results in cases that had resisted other treatments were also described in a case of severe urticaria, hysterical paralysis, chronic anxiety neurosis, a conversion reaction and chronic anxiety reaction, tremor and hallucinations in a soldier returning from a Japanese prison camp. Several patients with chronic alcoholism did not respond very favorably, and in two patients who stuttered badly, no improvement was recorded in one, and in the other improvement was attributed to customary remission. 8 references.

**psychotherapy**

105. *Types of Psychotherapy.* ROBERT A. COHEN, Rockville, Md. M. Ann. District of Columbia *20*:589-95, November 1951.

In the spontaneous recovery from a traumatic neurosis (which may be considered a "normal" neurosis) the individual attempts, on the one hand, to gain distance from the traumatic event by the decrease of ego functions, and on the other hand to get rid of the excess excitement and master the traumatic situation by means of stormy emotional discharges. These restorative processes may be influenced by constitutional factors, by the intensity and frequency of noxious stimuli, by opportunities for manipulative activity, by the ability to anticipate the traumatic events, and by the degree of personality warp resulting from the inadequate integration of early life experiences. What occurs spontaneously in recovery from a traumatic neurosis may be applied as planned therapy in the relatively acute traumatic events which occur in the lives of normal persons. Reassurance, recommendation of rest, and encouraging the patient to talk about the experience support and reinforce the spontaneous attempts at cure. The reality situation is described and clarified; tendencies toward irrational action are counteracted by being brought to the conscious level. The nearer a neurosis is in character to a traumatic neurosis, the greater the success of this support of spontaneous homeostatic reactions.

However, these methods of treatment are less effective in the more severe cases of psychoneurosis. While symptoms vary, and in many instances it may be difficult to distinguish between personality and symptom, all neurotic persons have in common the experience of something strange, unintelligible, and beyond their

control. A neurotic conflict is at the basis of these emotional disorders. Theoretically, the disorder could be ameliorated either by increasing the defenses against the anxiety, which is thus kept out of awareness, or else by diminishing or even abolishing the defenses and thereby decreasing or ending the conflict. In actual practice there are many compromises between these methods. Many successful psychotherapies offer what amounts to a set of artificial symptoms as substitutes for the more disturbing spontaneous symptoms. As an example, the careful planning of the patient's day may be considered as an artificial compulsion. Transference neuroses in which the patient reacts toward the therapist as he has toward a significant figure in his early life, may be substituted for the spontaneous neurosis. These may be either of the threatening or reassuring type. Psychoanalysis differs from other therapies in that it attempts to bring into awareness the forces which engender anxiety by undoing the defenses which prevent the anxiety from coming into awareness. The patient can then deal with these forces in a more rational manner.

Recent advances in psychotherapy include the development of hypnotherapy, group therapy, and brief therapy. Successful brief therapy depends first upon the establishment of a dynamic diagnosis of the principal conflicts, of the defenses against anxiety, of the circumstances which evoke anxiety, and of the flexibility and accessibility of the character in general. Careful selection of patient and therapist for this type of therapy is of utmost importance. 10 references.—*Author's abstract.*

**the "shock" therapies**

106. *Blood Lymphocytes and Adrenal Function in Electric Convulsive Therapy of Psychoses.* STANLEY T. MICHAEL, New York, N. Y., and WARREN T. BROWN, New Haven, Conn. J. Nerv. & Ment. Dis. *113*:538-48, June 1951.

Improvement in mental conditions treated by electric shock proceeds gradually from treatment to treatment. The lymphocyte responses tested in 7 patients also did not remain uniform during a series of treatments.

The first treatment of a series was characterized by immediate lymphocytosis followed by lymphopenia. This response was greatly modified in subsequent treatments.

Two of the 7 subjects failed to show consistently the usual drop in lymphocyte count. The relative lymphocyte count decreased more consistently and is probably a better indicator of adrenal cortical function than the absolute lymphocyte count.

In 4 of the 7 subjects, the relative lymphocyte counts obtained before individual shock treatments paralleled the emotional states of the patients, with lymphocytosis corresponding to aggressiveness and overactivity, and lymphopenia to passivity and underactivity. 29 references. 3 figures. 3 tables.—*Author's abstract.*

# neurology

## CLINICAL NEUROLOGY

107. *Hydrotherapy in Neurological and Vascular Problems.* FERDINAND F. SCHWARTZ, Birmingham, Ala. Internat. Rec. Med. *164*, October 1951.

Certain neurologic and vascular problems in medicine could be benefitted with the judicial application of hydrotherapy. Hydrotherapy should be prescribed with the same meticulous care as any medication within the realm of medicine. The patient's condition both physical and mental, his age, his resistance and tolerance should be evaluated before treatments commence. The physiologic effects of cold and heat must be borne in mind constantly in order to derive the most benefit from the application of hydrotherapy. 3 references.—*Author's abstract.*

108. *A Psychiatric, Electroencephalographic and Psychologic Study of Lobotomy in Chronic Schizophrenia.* HARRY ADLER AND DAVID R. TALBOT, Los Angeles, Calif. Dis. Nerv. System *12*:323-29, November 1951.

A study of 38 cases of severe chronic schizophrenia treated by lobotomy showed that proper treatment consists in a follow-up of individualized therapy based on a dynamic approach. The series included 20 paranoids, 11 catatonics, 3 hebephrenics and 4 unclassified cases. Regarding the results of operation 55 per cent of these patients are still in the hospital although considerably improved, 16 per cent are well adjusted in their homes, and 26 per cent unimproved. Three per cent of the cases were considered to be worse than before operation. The degree of postoperative improvement was not related to the age of the patient. From a behavioral aspect, 71 per cent of the patients seemed to be improved following the operation, in spite of retention of many psychological conflicts. Behavior aspects showing marked postoperative changes included aggressiveness, destructiveness (either internalized or externalized), and general motor hyperactivity.

Psychologic symptoms improved in 50 per cent of the cases, affecting hallucinations, delusions (especially delusions of persecution), guilt feelings, and hostility toward parental figures. Grandiose illusions showed no appreciable change and surgery does not relieve feelings of insecurity or inferiority. Some patients appeared to be more dependent following lobotomy, with a feeling of inferiority and loss of self esteem related to the operation, and needed to be repeatedly reassured that they had not lost their intellectual capacity. Two patients died, one failing to survive a second lobotomy, and 3 patients developed convulsive seizures which were controlled with dilantin.

Some of the patients became more timid and fearful following operation and one showed severe regression. The psychologic symptoms changed in degree rather than in form. Hostility persisted, but was less intense and therefore under con-

trol. Those with severe guilt obsessions withdrew more than prior to the operation. Reactivation of conflicts brought about a relapse to the same pattern of delusion and hallucination as that present before operation. The electroencephalograms showed that 12–14 per second sleep spindles disappeared in the frontal lobes after lobotomy. In one patient showing a good result of the operation, these spindles had disappeared completely, whereas in a case with poor results the sleep spindles persisted after lobotomy. It is suggested that deeper and more extensive lobotomies in cases failing to respond to a first lobotomy by disappearance of the sleep spindles may yield better results.

Lobotomy diminishes the affective component of the conflicts with great improvement in behavior and a reduction in psychologic symptoms. Inferiority complexes, fear of environment, erratic behavior and judgment persist and there is diminished anxiety tolerance. Adverse home influences frequently prevent the attainment of best results. In one case, a mother re-awakened feelings of inferiority and guilt, thus bringing on a recurrence of the mental illness. The duration of hospitalization will depend upon the severity of the case and the threats to mental health incident to home surroundings. If the latter prove detrimental, a return of the patient to the hospital in his improved condition should be considered.

After the initial period of confusion is over, the IQ shows an increase of 4 at the end of one month, and of 12 after one year.

Success of lobotomy therefore appears to depend upon a complete severance of connecting fibers leading to the orbital surface and convexity of the frontal lobe. The results will be good if the frontal areas or centers of intellectual ability are cut off from the control of the hypothalamus or center of emotions. 11 references.

## ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM

109. *Early Effects of Oxygen Lack and Carbon Dioxide Excess on Spinal Reflexes.* LENNART KIRSTEIN, Stockholm, Sweden. Acta. physiol. Scandinav. *23*: Supplementum 80, 1951.

The monosynaptic reflex during the early stages of oxygen lack showed an initial depression, a postdepressive augmentation and a final depression. The initial depression was sometimes preceded by an increase of the amplitude. In animals anesthetized with Dial, the initial depressive phase was absent. Thus, the investigations in man on the effect of oxygen lack on the myotatic reflex have been confirmed, and a reason for the absence of the initial depression during oxygen lack in experiments on animals, anesthetized with barbiturates, has been found.

The evidence suggests that the reflex changes are not caused by sensory impulses from the periphery.

It has been shown that the changes in the monosynaptic reflex during hypoxia are of spinal origin, and it is concluded that the initial depression and the postdepressive augmentation are due to a lowered oxygen tension in the spinal cord.

The available facts suggest that the early depression of the monosynaptic reflex is due to increased internuncial activity.

The experiments did not give any definite information on the site of the excitability changes responsible for the postdepressive augmentation and the final depression of the monosynaptic reflex. It could, however, be shown that the hyperexcitability was not confined to the afferent neurons of the reflex arc.

The polysynaptic reflex showed either a more or less gradual decrease or an increase, followed by a gradual decrease, during the early stages of oxygen lack.

The final decrease always coincided with the postdepressive augmentation of the monosynaptic reflex. The increase often corresponded in time to the initial depression of the monosynaptic reflex. The increase of the polysynaptic reflex was in many experiments preceded by a slight decrease.

It is concluded that the changes in the polysynaptic reflex are due to a lowered oxygen tension in the spinal cord.

The augmentation of the polysynaptic reflex has been regarded as an expression of increased internuncial activity.

The decrease of the polysynaptic reflex is considered to depend on failure of impulse propagation in presynaptic structures.

The differences between the responses of the monosynaptic extensor and polysynaptic reflexes to hypoxia cannot be regarded as differences between extensor and flexor reflexes, as the monosynaptic flexor reflex behaves in the same way as the monosynaptic extensor reflex. The changes thus depend on whether the reflex has a polyneuron arc.

Carbon dioxide excess has a depressant effect on the monosynaptic reflex. Thus, previous investigation on the effect of carbon dioxide on this reflex has been confirmed. It has here been shown that this effect is of spinal origin.

In animals anesthetized with Dial carbon dioxide may have initially a stimulating and has later a depressing effect on this reflex. The reflex was reduced less in anesthetized than in unanesthetized preparations.

The depressant effect of carbon dioxide in unanesthetized animals is probably due partly to increased internuncial activity.

The polysynaptic reflex showed a slight decrease on carbon dioxide excess in most experiments. 40 references. 25 figures.

*For Reference Only*

110. *Zur Anatomie des Tuber cinereum beim erwachsenen Menschen; mit besonderer Berucksichtigung der Beziehungen zur Hypophyse (Anatomy of the tuber cinereum in the adult, with special reference to its relation to hypophysis).* J. CHRIST, Berlin, Germany. Deutsche Ztschr. f. Chir. *165*:3-4, 340-408, 1951.

## CEREBROSPINAL FLUID

*See Contents for Related Articles*

## CONVULSIVE DISORDERS

111. *Paroxysmal Abdominal Pain. A Form of Epilepsy in Children.* PAUL F. A. HOEFER, SIDNEY M. COHEN, AND DAVID GREELEY, New York, N. Y. J. A. M. A. *147*:1-6, Sept. 1, 1951.

The present study deals with a group of patients in whom paroxysmal visceral symptoms were the presenting complaint. The first 12 of these patients were seen about 10 years ago at Babies Hospital and the pediatric service of the Vanderbilt Clinic. During the intervening 10 years we have added 19 cases to the group, and gradually the clinical picture has become clearer.

All of the children have said they had abdominal pain that in almost all instances has been periumbilical and epigastric. In some instances it radiated to the lower quadrants or the flanks. It has practically always been sudden in onset, of a severe nature, and has been described as colicky or knifelike. The pain lasted a few minutes to several hours. In several cases bouts of pain recurred several times in the course of two or three days. The pain has been associated in most instances with other gastrointestinal symptoms, such as anorexia, nausea, vomiting, diarrhea, or, less frequently, constipation. Sixteen of our patients fell asleep after an attack of abdominal pain no matter what time it occurred and slept for several hours, even in the middle of the day. Twelve patients said they experienced headache, lateralized in 2 cases, with an attack. Nine patients had fever with the attacks, and 7 had drooling and sweating.

In 17 there was an abnormal degree of irritability and other behavior disorders. In 12 there were multiple vasomotor disturbances, such as blanching, flushing, and lability of blood pressure. In 2 of the children, peripheral vasoconstriction and cyanosis have been observed between attacks. In 4 patients some of the attacks have been associated with cyclic vomiting, and the children were admitted in severe states of dehydration and acidosis. Sixteen males and 15 females were in this group. The onset of symptoms was usually in infancy; few started after the age of six and only one after eleven, but the disorder persisted for many years into adolescence. In 3 cases the disorder started after encephalitis.

Except for the multiple signs of autonomic imbalance, physical examination revealed few abnormalities. Members of the group as a whole appeared underdeveloped, immature, and small for their chronologic age. The clinical symptoms were not explained by the usual diagnostic procedures, the results of which were negative or showed insignificant changes. On the other hand, the paroxysmal nature of the attacks, the postparoxysmal sleep, and the fact that they occurred in groups, suggested a similarity in pattern with epilepsy, and, considering the possibility of a cerebral origin for the syndrome, a systematic study of EEG changes was made. As a result of these studies it was found that all the patients but 1 showed grossly abnormal cerebral electrical activity. Synchronous discharges of high-voltage slow waves and spike-and-wave bursts are the two main criteria for epileptic activity. An overall incidence of abnormal EEG activity, both specific and nonspecific, of almost 97 per cent, as found in "interseizure" records of our patients,

must be considered positive evidence of the cerebral and presumably paroxysmal origin of this particular disease entity. This figure compares well with those obtained in highly-selected groups of established epileptics in our own and other laboratories. The observations in normal and nonepileptic children of the same age groups, similarly tested, differ significantly from those presented here.

In a recent case, not included in this series, the clinical and laboratory picture presented physiologic evidence of a specific cerebral mechanism by which transient paroxysmal abdominal pain can be produced. A girl of 15 said she had headache and severe migratory abdominal pain. On repeated neurologic examination, nystagmus, associated with inability to perform upward gaze, was noted on one occasion. The EEG showed synchronous bifrontal discharges of high voltage 3 per second activity. During one of her attacks of pain a gastrointestinal series was performed. On this occasion, a transient episode of intussusception of the terminal ileum was observed. This and two similar areas were observed in the same examination. But there was no evidence of intussusception on an examination repeated eight days later, at which time the patient was asymptomatic.

Twenty-one patients were followed for periods up to 10 years. In 9 of the children, attacks of abdominal pain subsided completely at adolescence. In 5 others distinct improvement was found in that the attacks have recurred much less often and have been much milder. In 5 others the condition has become worse. Frank epileptic manifestations occurred in 9 of the entire group of 31 patients. The clinical course and EEG findings in our followup showed fair correlation in that the electroencephalograms became normal or near-normal in patients in whom the symptoms had subsided.

Anticonvulsant therapy was tried in 8 of the patients who had abdominal pain not associated with clear-cut epileptic attacks. However, in no patient in our group was therapy administered for a sufficiently long period to allow proper evaluation. In a few instances an impression of temporary improvement has been recorded.

112. *The Heredity of Epilepsy as Told by Relatives and Twins.* WILLIAM G. LENNOX, Boston, Mass. J. A. M. A. *146*:529-36, June 9, 1951.

A history of seizures was obtained from 3.2 per cent of the 20,000 near relatives of 1,231 epileptic patients. The incidence was 3.6 per cent if evidence of brain damage prior to the patient's first seizure was lacking and 1.8 per cent if such evidence was present.

In the group with undamaged brain (essential epilepsy), the incidence of epilepsy among relatives decreased progressively with a later onset of seizures (6.4 per cent if onset was in infancy; 1.5 per cent if it was after the age of 30). Corresponding incidences for the group with brain damage (symptomatic epilepsy) were 2.9 and 1.3 per cent.

The relative influences of heredity, brain damage, and chronicity of seizures were studied in a group of 122 twin pairs affected with seizures. In twin pairs without prior brain damage, both co-twins were epileptic in 84 per cent of the one-egg and

in 10 per cent of the two-egg twins. In pairs with brain damage, the corresponding incidences were 17 and 8 per cent.

In one-egg twins, concordance was usual not only with respect to seizures, but also with respect to the type of seizure and to the electroencephalographic pattern.

Intelligence quotients were determined for 87 twin pairs. The person's mental endowment was of most importance in the maintenance of a good intelligence. Acquired brain damage was a severe depressant; the reputed bad effect of repeated seizures was not in evidence.

A transmitted predisposition to seizures and brain damage are each (or both) important factors in the origin of a person's epilepsy. A constitutional cerebral dysrhythmia may, among other things, be the visual representation of a predisposition to seizures.

The genetic factor in epilepsy is probably no greater than it is in many other common diseases. The epileptic is unfairly pillorized in public opinion and in law. Assets that are transmissible, such as sound vital organs, good intelligence, personality, and social responsibility, may outweigh the liability of a tendency to seizures. Hence, advice regarding marriage and children may be individualized. 5 figures. 1 table.—*Author's abstract.*

113. *Treatment of Epilepsy with Mesantoin or Hydantal. A Study of 35 Consecutive Patients with Grand Mal Seizures Treated at the Virginia State Penitentiary and in Private Practice with a Follow-up of 1 to 2 Years.* HARRY BRICK, Richmond, Va. Virginia M. Monthly *78*:423-29, August 1951.

The findings of the writer in a study of 35 consecutive cases treated in private practice and at the Virginia State Penitentiary, with a follow-up of one to two years, bear out the conclusions of other workers in the field of epilepsy that Mesantoin and Hydantal are drugs offering comparative safety in controlling grand mal epilepsy.

In this study, Mesantoin, in an average daily dosage of 3 grains, or Hydantal in similar dosage, was administered. Treatment was limited to patients of the grand mal type seen in idiopathic, focal, psychomotor, and hysterical epilepsy. Diagnoses were made principally on the basis of histories given by the patients and after a seizure was witnessed.

This group averaged a total of 98 seizures per month prior to the therapy. Seventeen presented symptoms of focal epilepsy, 14, idiopathic symptoms, 3 psychomotor symptoms, and 1 hysterical symptoms. The 8 patients (22.8 per cent) completely controlled by these drugs were 4 of the focal type and 4 of the idiopathic type. After treatment with Mesantoin or Hydantal, 22 patients showed a 31.6 per cent reduction in seizures. The patients whose seizures were not reduced stated that the intensity of the seizures was much milder. The hysterical patient did not respond to this treatment.

One patient, a white woman of 34 years suffered from grand mal seizures, developed severe aplastic anemia with hyperplastic bone marrow as a result of sensi-

tivity to Mesantoin. She recovered, however, after numerous transfusions and a regimen of penicillin, streptomycin, and various hematinics. This suggests that monthly hematologic studies should be made in order to recognize and obviate the above mentioned condition.

No toxic reactions were noted among the prisoner patients.

It is, therefore, felt that Mesantoin or Hydantal, in many respects, have demonstrated a safe efficacy in treatment of epilepsy of the grand mal type. 25 references. 1 figure.—*Author's abstract.*

## DEGENERATIVE DISEASES OF THE NERVOUS SYSTEM

114. *Psychiatric Symptoms and Syndromes in Parkinson's Disease.* ROBERT S. SCHWAB, HOWARD D. FABING, AND JOHN S. PRICHARD, Boston, Mass. Am. J. Psychiat. *107*:901-07, June 1951.

Four groups of psychiatric symptoms are described in association with Parkinson's disease:

1. Patients with unrelated psychiatric disease;

2. Patients with reactive mental disturbances; a reactive depression may occur as a result of Parkinson's Disease, as with any other chronic illness;

3. Psychiatric symptoms may occur as the result of medication. This is best known as a result of hyacin medication, but may also occur with the newer drugs. They usually clear up within 48 hours of withdrawal of the drug.

4. Paroxysmal psychiatric disorders probably related to Parkinson's Disease. For the most part, these paroxysmal disorders are associated with oculogyric crises, but this is not universal. Anxiety attacks, specific attacks of compulsive thinking, paroxysmal depression, paranoid attacks, paroxysmal attacks with a strange feeling in the limbs, schizoid reactions, states of severe agitation and tension, and chronic fatigue states are described. In general, people with stable personalities are less likely to have disturbances of this kind than other people.

It is pointed out that an opportunity exists in these people for correlating specific brain lesions with numerous psychiatric symptoms.—*Author's abstract.*

## DISEASES AND INJURIES OF THE SPINAL CORD AND PERIPHERAL NERVES

115. *A Classification of Peripheral Nerve Injuries Producing Loss of Function.* SYDNEY SUNDERLAND, Melbourne, Australia. Brain *74*:491-516, 1951.

The author presents a classification of peripheral nerve injuries based on the extent of damage to the normal anatomy of the nerve trunk. Five degrees of injury in ascending grades of severity, affecting successively conductivity, continuity of the axon, the endoneural tube and its contents, the funiculus and its contents and finally, continuity of the nerve trunk, are listed. In first degree

injury, the conduction is blocked at the site of injury, but continuity of all components of the nerve trunk, including the axon is preserved. Wallerian degeneration is not present, and the disturbances causing the nerve block are wholly reversible. Following a dormant interval, the nerve fibers reawaken to activity. The involved parts begin to function either at the same time or within brief intervals from each other, and function is shortly fully restored. The fundamental basis of the injury is interruption of conduction with preservation of anatomic continuity.

In the second degree of injury there is Wallerian degeneration below the site of injury, and possibly a short distance above it. The general arrangement of the axon sheaths and the remaining structures of the nerve are preserved, and the integrity of the endoneurial tube has not been threatened. Axonal connection with the periphery is restored by regeneration of the intact portion of the axon. The fiber pattern following reinnervation is the same as before the injury and function is fully restored. The structures recover in the order in which they were innervated. The fundamental basis of secondary degree injury is disintegration of the axons, which later regenerate. Owing to preservation of the endoneurial tubes, the regeneration restores completely the original pattern of innervation.

Third degree injury consists of disorganization of the contents of the funiculi, so that the continuity of the endoneurial tubes is destroyed with chances of erroneous cross-shunting of the regenerating axons. The adverse effects of the latter vary with the fiber-composition of the individual funiculi, being worse when the bundles are composed of intermingled fibers from different sources than when composed of fibers from the same branch.

In fourth degree injury, there is complete disorganization of the internal structure of the nerve with preservation of continuity. After such an injury, the regenerating axons are left free to enter the interfunicular spaces. Many become lost and terminate blindly while others enter foreign tubes. The more severe fibrous tissue reaction aggravates the axonal loss and erroneous cross-shunting.

Fifth degree injury consists of severance of the nerve trunk. The clinical features associated with each type of injury are described. Partial and mixed lesions can be explained in terms of the five primary types outlined. 34 references.

116. *Spinal Cord Injury and Motor Innervation of the Upper Urinary Tract* (*Rückenmarksverletzung und motorische Innervation der oberen Harnwege*). C. BLUMENSAAT AND E. MENZEL. Arch. f. klin. Chir. 269:87-121, Sept. 7, 1951.

Excretory urographic studies of the disturbances of the motor innervation of the upper urinary tract were made from the first to forty-eighth day following traumatic injury to the spinal cord in 19 cases. One case was studied 9 years after the injury. The findings were confirmed in 24 autopsies. These studies seem to justify the following conclusions:

In transverse paralysis, the urinary tract shows complete sympathetic exclusion from the spinal cord, with constriction of the upper urinary tract as an expression of the resulting automatism. This constriction is not the result of a vesicorenal reflex, as this reflex is destroyed in transverse paralysis, but might rather be ascribed

to a slight increase in the plastic parietal tonus and a slight oliguria. The automatic stage is presumably preceded by a very transitory hypotonic condition. Automatic constriction is independent of the level of the segment of interruption as likewise of the anatomic type and degree of the cord injury. The functional unity of the whole urinary apparatus is affected, which explains why the upper urinary tract is constricted in injuries of the lower segments of the cord. The impulses for renal secretory and excretory activity have their origin in the urinary apparatus itself. Therefore, interruption of the vesicospinal cord reflexes, as of the kidney-spinal cord reflexes, inhibits the mutual reflex action and leads to automatism.

The hypotension and dilatation of the upper urinary tract in complicated cases are not due to the transverse paralysis, but to an ascending infection of the urinary tract caused in turn by atony of the bladder with residual urine and cystitis. The advent of the hypertonic automatic stage is of vital importance for the bladder as regards treatment of infection.

Two cases with dilatation of the upper urinary tract could not be explained by infection alone, but gave the impression of an achalasia-like condition. In one case, there was a stasis due to severe dilatation of the bladder following the injury. In one late case, hypotonia of the ureter and renal cavities was attributed to B. Coli infection. 50 references. 1 table. 7 figures.

*Interesting, but the ideas in reference to physiology are confusing and somewhat illogical.*—ED.

## ELECTROENCEPHALOGRAPHY

117. *Electroencephalography in a General Hospital. Resume of 500 Records.* ALEX J. ARIEFF, Chicago, Ill. Quart. Bull., Northwestern Univ. M. School 25: 342-44, Winter 1951.

In a review of approximately 500 EEG records, various correlations were attempted with clinical syndromes or reason for examination.

In 204 records of patients with epilepsy, 80 per cent were considered abnormal, but in only 41 patients, or 20 per cent, were spike wave complexes found (this being practically diagnostic of epilepsy). In the 41 patients, 11 had minor seizures, 20 had major seizures and in 10 both types were present.

In 75 suspected brain tumors, only 18 were verified at operation or autopsy. Of these, in 5 or 23 per cent, there was a slow wave focus. In 3 there was diffuse spiking, including one with spike wave discharge. In one there was a spiking focus and 2 showed amplitude asymmetry (one had the decrease on the involved side and the others on the normal side). These records were abnormally slow and 4, or 20 per cent, were normal.

In 44 patients with fainting or syncopal spells, convulsions were noted in 5 and questionable in 3. In 17, or 32 per cent, the record was normal (in spite of 2 with convulsions).

Abnormalities were noted in isolated instances in manic depressive psychosis, headaches, migraine syndrome, Menière's syndrome, schizophrenia, and senile dementia.

Of 15 patients with cerebral apoplexy, 66 per cent were abnormal, possibly due to a high incidence of associated convulsive states.

In 20 patients with dizzy spells, the majority were normal. Those with abnormalities must be further investigated as having convulsive or organic brain disease backgrounds.

In cerebral trauma, the majority showed abnormalities and their improvement could be followed over a period of time.

In an EEG laboratory, the majority of cases will consist of abnormalities, inasmuch as most patients sent for examination will be allied to the epileptic states. 1 table.—*Author's abstract.*

## HEAD INJURIES

*See Contents for Related Articles*

## INFECTIOUS AND TOXIC DISEASES OF THE NERVOUS SYSTEM

118. *Clinical Significance of Glucose Content in the Cerebrospinal Fluid in the Course of Tuberculous Meningitis in the Adult (Valeur séméiologique de la glycorachie au cours de la méningite tuberculeuse de l'adulte).* P. SÉDALLIAN, R. MABAL, C. ENBRAYAT, R. CARRON, G. MADONA, J. C. KALB, AND CHAVANIS. J. méd. Lyon *32*:755-64, Aug. 20, 1951.

In 12 cases of tuberculous meningitis, without tuberculous lesions elsewhere, determination of the glucose of the spinal fluid at onset of the meningeal symptoms showed it to be less than 0.40 Gm. per 1000 in 10 cases, 0.46 in 1 case and over 0.60 in 1 case. In 23 cases of meningitis with clear spinal fluid and progressing to recovery without treatment, the glucose of the spinal fluid was not below 0.40 in any case; was between 0.40 and 0.60 in 5 cases, between 0.60 and 1 Gm. in 15 cases, and more than 1 Gm. in 3 cases. Spinal fluid never showed a glucose content definitely below normal in any form of meningitis other than tuberculous meningitis in the author's series, and this makes such a low glycorrhachia of definite diagnostic value in the early stages of meningeal involvement. The glucose content of the spinal fluid at the onset of meningitis appears to have a prognostic value—a very low glucose content indicating an unfavorable prognosis under streptomycin treatment. In 12 patients with tuberculous meningitis who showed a good response to streptomycin therapy without recurrence (in a period of eight months), the glucose content of the spinal fluid was below 0.20 Gm. per 1000 at the first examination in only one patient. In 4 patients who developed a recurrence, the spinal fluid glucose was below 0.20 in one patient. Of 5 patients who did not respond favorably and who died, 4 showed a spinal fluid glucose below 0.20 Gm. A return

of the spinal fluid glucose to normal under streptomycin therapy is a favorable sign. During treatment, the spinal fluid is examined and the glucose determined every eight to twelve days. If the glucose content does not increase toward normal, but remains low, the authors are of the opinion that the intraspinal administration of streptomycin should not be discontinued too early; they are inclined to continue this treatment until the glucose content of the spinal fluid has risen above 0.45 Gm. 9 references. 2 tables.

## INTRACRANIAL TUMORS

119. *Acute Psychic Disturbances Following Operations on the Brain* (*Akute Psykische Störungen als Hirnoperationsfolgen*). JOACHIM-ERNST MEYER AND LOTHAR WITTSKOWSKY, Freiburg, Switzerland. Arch. f. Psychiat. *187*:1-38, 1951.

Only 15 per cent of a series of 60 cases of brain surgery failed to show transitory psychic disturbances following the operation. Symptoms usually developed on the second to fourth day after the intervention and consisted of confusion in 26 cases, with amnesia in 12 cases and delirium in 4 cases. Orientation was impaired especially at night when vision was poor. Postoperative delirium occurred in 2 cases of pituitary adenoma, 1 craniopharyngioma and 1 large frontal lobe glioma. The delirium corresponded to the usual type observed in symptomatic psychoses. Retrograde amnesia was present in 5 instances. Postoperative changes in drive appeared (1) as increased drive during the intra-operative manic state, (2) as diminished drive in confused states, and (3) as marked diminution of drive in 3 cases with clear mentality and no frontal involvement. Other disturbances noted included incoherent thinking in delirium, flighty states in the intra-operative manic reaction, and general retardation of mental processes in confused or apathetic patients. One patient displayed a transitory paranoid disturbance. Aside from the common organic euphoria, a change in mood as a result of the operation was observed only in the intra-operative manic syndrome. Only one patient passed through a short period of depression following the operation. Most various optical delusions were frequently associated with the confused state, but occurred also in the absence of the latter. Acoustic and sensory disturbances occurred only in states of delirium. Transitory manic disturbances developed during operation in 7 patients. With one exception, the operation in these cases involved the frontal lobes, or the frontal route to gain access to basal tumors.

In 2 operations in the vicinity of the midbrain, and 1 sudden evacuation of a hydrocephalus, a prolonged soporific state developed during operation. On the other hand, in one patient, the sudden evacuation of a cystic craniopharyngioma, produced a soporific state lasting for a whole day. Marked insomnia was observed in some cases of operation in the vicinity of the midbrain. In 2 cases attacks of inverted vision were observed following operations on the posterior cranial fossa.

The most severe psychic disturbances occurred during the stage of postoperative cerebral edema. Apparently, increase in intracranial pressure, per se, will not

suffice to produce the psychic disturbances here described. Transitory postoperative neurologic symptoms or facial edema indicated the presence of cerebral edema. 67 references.

## NEUROPATHOLOGY

120. *Changes in the Nerve Roots in Hypertension and Their Clinical Significance (Die Veränderungen an den Wurzelnerven bei Hypertonie und ihre klinische Bedeutung).* KURT ELSTER, Erlangen. Arch. f. Psychiat. *187*:69-86, 1951.

The changes in the cerebrospinal fluid reported in cases of arterial hypertension led the author to make a study of the spinal nerve roots in subjects with hypertension. In 24 patients suffering from different types of hypertension, he found constantly a more or less marked, nonspecific inflammation in the interstices of the spinal nerve roots. These granulations were interpreted as proliferations of the arachnoid cells. Interstitial radiculitis is not the result of the hypertension, but is to be regarded rather as a parallel reaction to a frequently present focal infection.

The increase of protein in the cerebrospinal fluid in hypertension is attributed to this granulating inflammation of the spinal nerve roots. Also, the frequently described rheumatic-neuralgic symptoms may be partially explained by these findings. This is true particularly in cases of symptomatic hypertension. An accumulation of blood in the nerve roots and region of the spinal ganglion noted in 4 cases was believed to be due to a sedimentation process following ventricular rupture or subarachnoid hemorrhage. 34 references. 2 tables.

121. *Anomalous Horizontal Lamination of Nerve Cells in the Supragranular Cortex of an Idiot Brain.* M. C. H. DODGSON, London, England. J. Neurol, Neurosurg. & Psychiat. *14*:303-07, November 1951.

The central nervous system of an idiot, aged 2¼ years, with generalized spasticity and bilateral downward dislocation of the femora with imperfect acetabular formation, is described. The brain, not grossly malformed, showed internal hydrocephalus without cerebral expansion (skull circumference 44 cm.), the lateral ventricles, interventricular foramina and third ventricle being dilated, although not the aqueduct or fourth ventricle, the lateral recesses being patent.

The second and third layers of prefrontal cortical cells, particularly in the superior frontal region, ran in horizontal rows of single cells parallel to the cortical surface. They had scanty cytoplasm containing little Nissl substance, many being bipolar. In the affected supragranular cortex, there were few nerve fibers, none myelinated and none running horizontally between the rows of cells. There was also reduplication of the dentate gyrus, with absence of normal crowding of pyramidal cells in the *cornu Ammonis*.

The shrunken and gliosed central white matter and corpus callosum were incompletely myelinated, fiber systems tending to run in poorly defined stripes around

the ventricles. There was shrinkage and distortion of the thalamus, microscopically showing abortive status marmoratus, with glial fibrosis and irregular myelination. The fornix system was not identified, the mammillary bodies being small, as were the pyramidal tracts.

Comparable, although less definite horizontal lamination of prefrontal cortical cells was seen in a premature infant of 26 weeks gestation, but does not occur in the full term infant (Conel). The anomaly may therefore be the exaggerated persistence of a prenatal arrangement. Hydrocephalus probably arose *ex vacuo* from shrinkage following a prenatal anoxic or toxic process, with, possibly, diffusion of a toxic substance from the ventricles. Both cortical anomaly and white matter lesion were probably expressions of a single pathologic process. 13 references. 5 figures.—*Author's abstract.*

**NEURORADIOLOGY**

*See Contents for Related Articles*

**SYPHILIS OF THE NERVOUS SYSTEM**

*See Contents for Related Articles*

# book reviews

BRAIN METABOLISM AND CEREBRAL DISORDERS. Harold M. Himwich, M.D. Baltimore, The Williams and Wilkins Company, 1951. 451 pp. Price $6.00.

In the last chapter, "Prospects and Problems for the Future," the author states: "The chief point of this volume has been to bring evidence to test Hughlings Jackson's concept of the phyletic organization of the central nervous system." For the benefit of the prospective reader, it should be pointed out that the content of the book by far transcends this goal. The 368 pages of text offer a most comprehensive review of the literature (1,042 references) on general metabolism and brain metabolism, in particular, and the author's own voluminous work on brain metabolism. Under the general heading "Energetics," one part of the book deals with the food stuffs of the brain, the mechanism of brain metabolism under normal and abnormal conditions and the effects of various therapeutic procedures on the cerebral metabolic rate. The other part of the volume, under the title "Patterns of Nervous Activity," is based on Hughlings Jackson's theory of the phyletic organization of the central nervous system. Symptoms of insulin hypoglycemia or anoxia are analyzed in their relation to the function of the various parts of both the somatic and autonomic portions of the cerebrospinal nervous system. It is suggested that

those symptoms appear in groups which are specific, both as to their nature and time of appearance. Thus, with reference to the function of the different areas of the somatic and autonomic cerebrospinal nervous system, the author distinguishes in the hypoglycemic or anoxic symptoms five phases which follow each other: cortical, subcortico-diencephalic, mesencephalic, premyelencephalic, and myelencephalic.

The chapter on "The Barbiturates and Some Other Depressant Drugs" is a notable contribution to our knowledge on pharmacodynamics. Both the clinical symptomatology of the drugs and their mode of action, with special reference to their effect on brain metabolism, are most comprehensively studied and clearly formulated.

The physiologist, biochemist, physician, psychiatrist, and research worker in any branch of biology will learn a great deal, as the reviewer did, from this book, rich in content and easily readable.—*Solomon Katzenelbogen, M.D.*

THE PUBLIC HEALTH NURSE AND HER PATIENT. Ruth Gilbert, R.N. Second edition revised. Cambridge, The Commonwealth Fund, Harvard University Press, 1951. 348 pages. Price $3.75.

In this second edition Miss Gilbert has again made a distinctive contribution to the literature of mental hygiene.

While the subject matter of this book has been chosen from the field of public health nursing, the material has implications for all nurses, as well as for other professional workers. It is especially valuable for those who lack a background of psychiatric preparation and experience, inasmuch as the concepts are stated clearly and succinctly in nontechnical language.

The need for the nurse to be comfortable herself in order to be able to provide comfort to her patients is recognized throughout the discussion. By the use of case material and the discussion of common occurrences the author points out the value of a generalized use of the knowledge of dynamics of human behavior. This leads into material on interpersonal relationships, not only between the nurse and her patient, but between the nurse and other professional workers. The emphasis is equally divided between the nurse's recognition of her own use of mental mechanisms as well as others' use of them. An effort is made to assist the public health nurse in the conscious use of mental hygiene concepts in many situations. Most of the areas involving patients deal with the use of positive concepts in the care of all the types of patients found in the nurse's case load. Happily, no attempt is made to limit the discussion to the care of those who have signs of active mental illness. The material on relations to co-workers makes use of the nurse-supervisor and nurse-social worker relationship but could be applied to other professional relationships as well. The discussion of the nurse's function, while by no means exhaustive, is particularly timely.

All in all, this contribution to the literature on mental hygiene for public health nurses is most welcome. There is need for more.—*Ellen A. Andruzzi, R.N.*

# 5


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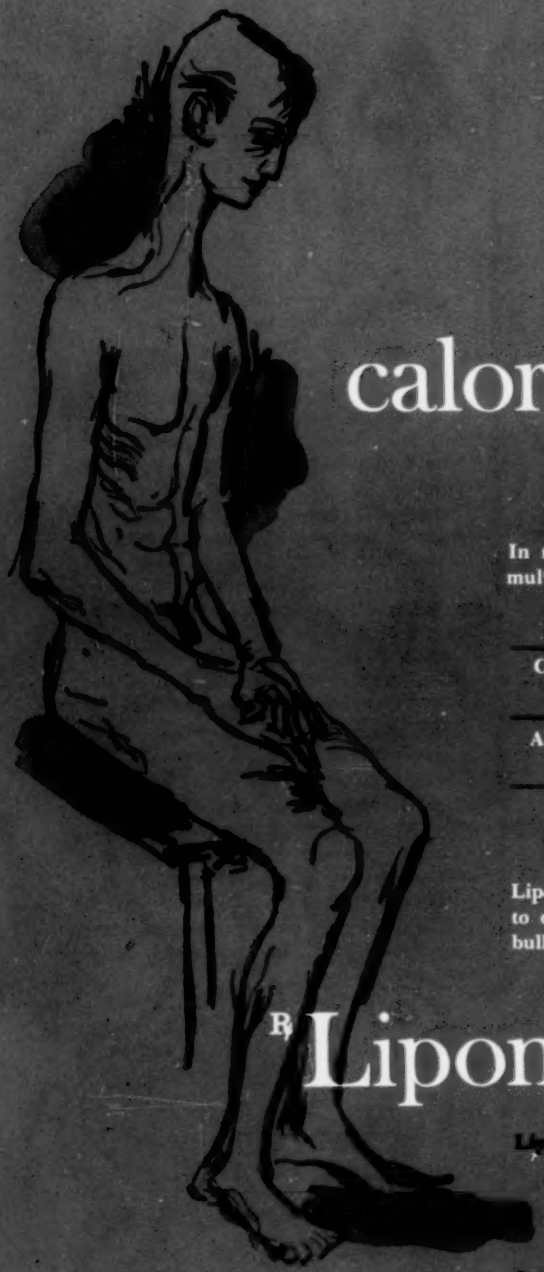

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